** Paul Schulwitz please return all attachments with search results. Thank

89630 / Access DB# _____

SEARCH REQUEST FORM

RECEIVED

Scientific and Technical Information Center MAR 21 2

Requester's Full Name: Molly Ceperley Examiner #: 59253 (STIC) Date: 3/21/03
Art Unit: 1641 Phone Number 30 8-4239 Serial Number: 09/766,347
Mail Box and Bldg/Room Location: 8D15 → 7E12 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

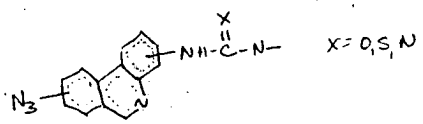
Title of Invention: _____

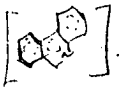
Inventors (please provide full names): _____ bibliographic data sheet attached

Earliest Priority Filing Date: _____

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

① Please search for the following compound fragment:



Compounds are azide (N_3) derivatives of phenanthridines  . See Fig. 6 for a specific compound. Leave all ring positions open to substitution.

② He has elected Ar = phenanthridine(s) E = somatostatin receptor binding molecule and N_3 (azide) of claim 1. Would you please search for these 3 terms in combination. Compounds are used for photothrapy.

③ Please search for the combination of the terms phenanthridine(s), azide & each of the terms circled in yellow in claim 1 or ligand, biomolecule, antibody.

④ Please search for  with N_3 at any ring position and each of the terms circled in yellow in claim 1 or ligand, biomolecule, antibody. Leave all ring positions open to substitution.

* Phenanthridine is also known as:
3,4 - benzquinoline; 2:3: 4:5-dibenzpyridine; 9-azaphenanthrene

****

STAFF USE ONLY

Searcher: _____ POINT OF CONTACT: PAUL SCHULWITZ TECHNICAL INFO. SPECIALIST
Searcher Phone #: _____ CM1 6B06 TEL (703) 305-1954
Searcher Location: _____
Date Searcher Picked Up: 3/24
Date Completed: 3/28
Searcher Prep & Review Time: ~~10~~ 20
Clerical Prep Time: _____
Online Time: 25

Type of Search

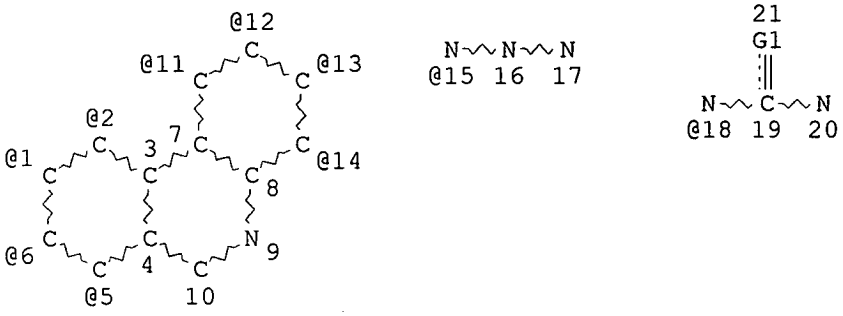
NA Sequence (#) _____
AA Sequence (#) _____
Structure (#) _____
Bibliographic _____
Litigation _____
Fulltext _____
Patent Family _____
Other _____

Vendors and cost where applicable

STN 615.50
Dialog _____
Questel/Orbit _____
Dr.Link _____
Lexis/Nexis _____
Sequence Systems _____
WWW/Internet _____
Other (specify) _____

PTO-1590 (8-01)

=> d que
L1 STR



VAR G1=O/S/N
VPA 15-5/6/1/2 U
VPA 18-11/12/13/14 U
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DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

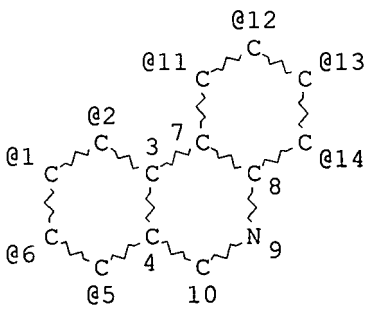
GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 21

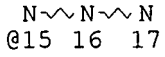
STEREO ATTRIBUTES: NONE
L3 0 SEA FILE=REGISTRY SSS FUL L1

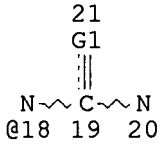
Not in Registry

Part 1

=> d que
L1 STR







VAR G1=O/S/N
VPA 15-5/6/1/2 U
VPA 18-11/12/13/14 U
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE
L6 0 SEA FILE=BEILSTEIN SSS FUL L1

Not in Beilstein

Part ①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=> d que
L1                STR
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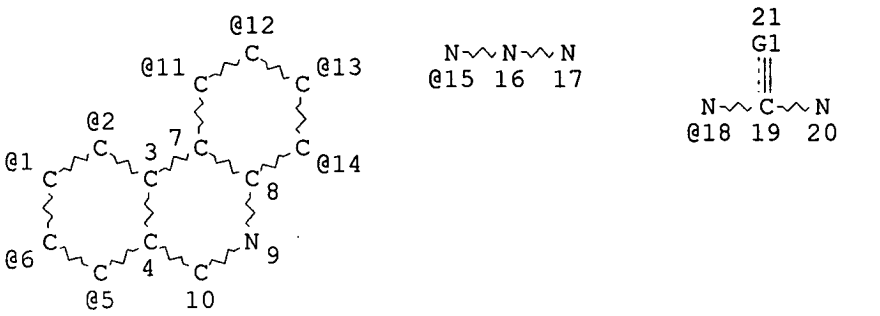


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VAR G1=O/S/N
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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  21

STEREO ATTRIBUTES: NONE
L5             3 SEA FILE=MARPAT SSS FUL L1


=> d ibib abs fqhit l5 1-3

L5   ANSWER 1 OF 3  MARPAT  COPYRIGHT 2003 ACS
ACCESSION NUMBER:         137:363072  MARPAT
TITLE:                    Novel aromatic azides for type I phototherapy
INVENTOR(S):              Rajagopalan, Raghavan; Cantrell, Gary; Achilefu,
                          Samuel I.; Bugaj, Joseph E.; Dorshow, Richard B.
PATENT ASSIGNEE(S):       Mallinckrodt Inc., USA
SOURCE:                   U.S. Pat. Appl. Publ., 15 pp.
                          CODEN: USXXCO
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE          APPLICATION NO.  DATE
     ----------------  ----  --------      ---------------  --------
     US 20021691074    A1    20021114      US 2001-766347   20010119
PRIORITY APPLN. INFO.:                     US 2001-766347   20010119
AB   The present invention discloses novel arom. azide derivs. and their
     bioconjugates for phototherapy of tumors and other lesions.  The org.
     azides of the present invention are designed to absorb low-energy UV,
     visible, or near-IR region of the electromagnetic spectrum.  The
     phototherapeutic effect is caused by direct interaction of nitrene, the
     reactive intermediate produced upon photoexcitation of the arom. azide,
     with the tissue of interest.  The compds. of the present invention are
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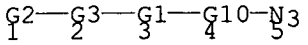
this applicn

administered to a patient, allowed to accumulate at the site of the tumor or other lesion, and are exposed to light in order to perform a phototherapeutic procedure.

MSTR 1



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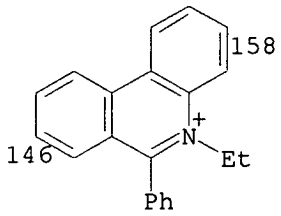

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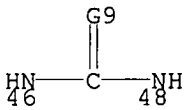


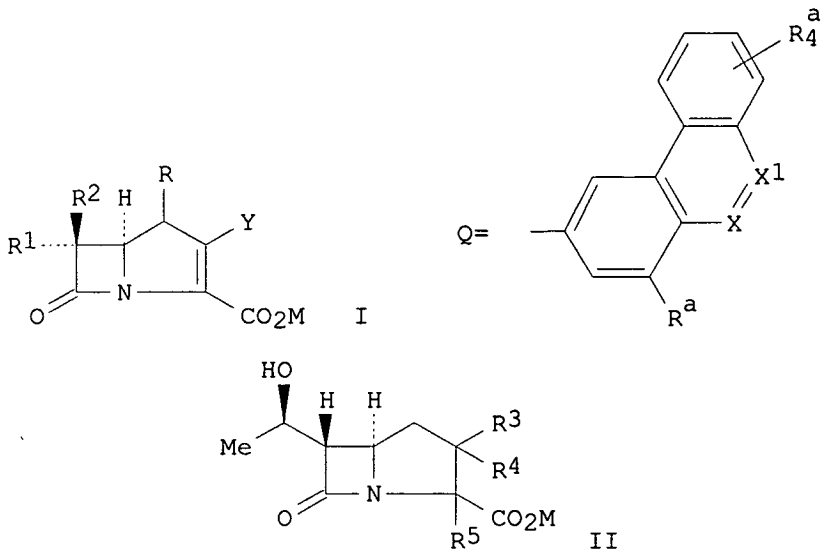
G9 = O
MPL: claim 1

L5 ANSWER 2 OF 3 MARPAT COPYRIGHT 2003 ACS
ACCESSION NUMBER: 122:187249 MARPAT
TITLE: Preparation of 2-phenanthridinylcarbapenems as antibacterial agents
INVENTOR(S): Dininno, Frank P.; Greenlee, Mark L.; Rano, Thomas A.; Lee, Wendy
PATENT ASSIGNEE(S): Merck and Co., Inc., USA
SOURCE: PCT Int. Appl., 115 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9417066	A1	19940804	WO 1994-US85	19940103
W: AU, BB, BG, BR, BY, CA, CN, CZ, FI, HU, JP, KR, KZ, LK, LV, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SK, UA, US, UZ				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5336674	A	19940809	US 1993-9626	19930127

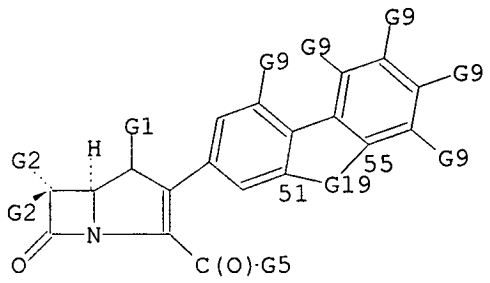
CA 2154276	AA	19940804	CA 1994-2154276	19940103
AU 9459902	A1	19940815	AU 1994-59902	19940103
EP 682666	A1	19951122	EP 1994-906014	19940103
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
JP 08505874	T2	19960625	JP 1994-517039	19940103
PRIORITY APPLN. INFO.:			US 1993-9626	19930127
			WO 1994-US85	19940103

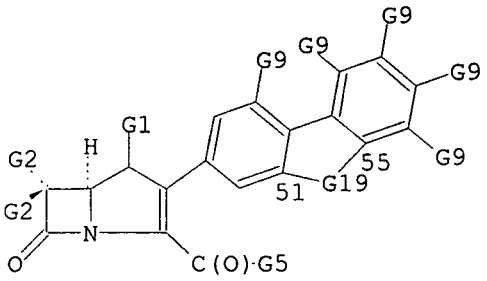
GI



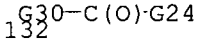
AB Title compds. [I; M = H, alkali metal, neg. charge, etc.; .; Ra = H, Me; R1,R2 = H, Me, Et, CH2OH, MeCH(OH), etc.; .; Y = phenanthridinyl group Q; 1 of Ra = H and the others = H, CF3, halo, (un)substituted alkoxy; 1 of X,X1 = N+Rdm and the other = CRc; Rc = H, (un)substituted alkyl(oxy), NH2, etc.; .; Rd = H, NH2, O-, alkyl, etc.; .; m = 0 or 1] were prepd. as antibacterial agents (no data). Thus, oxopenamcarboxylate II [M = CH2C6H4(NO2)-4, R3R4 = O, R5 = H] was condensed with Me3SnQ CF3SO3- (Ra = H, X = N+Me, X1 = CH) and the product hydrogenolized to give II (M = neg. charge, R3 = Q, R4R5 = bond, Ra = H, X = N+Me, X1 = CH).

MSTR 1A





G9 = 132 / N3



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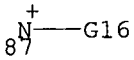

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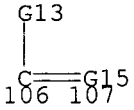
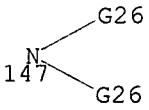


G24 = 147



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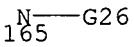

DER: or other pharmaceutically acceptable cations
MPL: claim 1
NTE: substitution is restricted

L5 ANSWER 3 OF 3 MARPAT COPYRIGHT 2003 ACS
ACCESSION NUMBER: 122:187248 MARPAT
TITLE: 2-(phenanthridinyl)carbapenem antibacterial agents
INVENTOR(S): Dininno, Frank P.; Greenlee, Mark L.; Rano, Thomas A.; Lee, Wendy
PATENT ASSIGNEE(S): Merck and Co., Inc., USA

SOURCE: U.S., 28 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5328904	A	19940712	US 1993-9622	19930127
WO 9417065	A1	19940804	WO 1994-US62	19940103
W: AU, BB, BG, BR, BY, CA, CN, CZ, FI, HU, JP, KR, KZ, LK, LV, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SK, UA, US, UZ				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2154275	AA	19940804	CA 1994-2154275	19940103
AU 9461207	A1	19940815	AU 1994-61207	19940103
EP 682667	A1	19951122	EP 1994-907775	19940103
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
JP 08505873	T2	19960625	JP 1994-517034	19940103

PRIORITY APPLN. INFO.: US 1993-9622 19930127
WO 1994-US62 19940103

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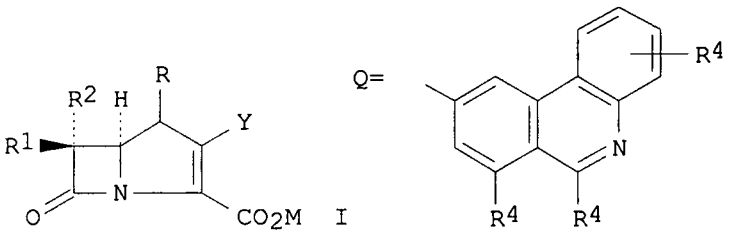
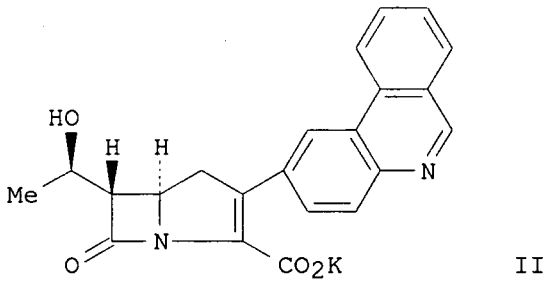
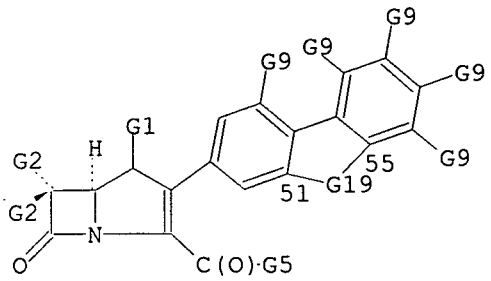


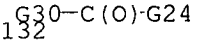


AB The title compds. [I; M = H, carboxyl-protecting group, alkali metal; R = H, Me; R1, R2 = H, Me, Et, Me2CH, HOCH2, etc.; Y = Q, (un)substituted phenanthridinyl, etc.; R4 = H, CF3, halogen, C1-4 alkoxy], useful as antibiotics (no data), are prepd. Thus, carbapenem II was prepd. from 2-bromophenanthridine in 3 steps.

MSTR 1A



G9 = 132 / N3



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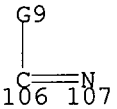

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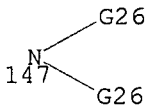

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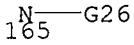

DER: or other pharmaceutically acceptable cations
MPL: claim 1
NTE: substitution is restricted

part (2)


```
=> d que
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L18            0 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (PHENANTHRIDIN? OR L15) AND
                 SOMATOSTAT? AND (N3 OR AZID?)
```

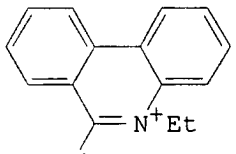
=> d que
L8 2 SEA FILE=HCAPLUS ABB=ON PLU=ON PHENANTHRIDIN? AND AZID? AND (BIOMOL? OR LIGAND? OR ANTIBOD? OR ST RECEP? OR NEUROTENSIN? OR BINDING MOLECUL? OR BOMBESIN OR CCK OR STEROID RECEP? OR CARBOHYDRATE RECEP?)

=> d ibib abs hitind l8 1-2

L8 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:400266 HCAPLUS
DOCUMENT NUMBER: 121:266
TITLE: Use of drug-specific **antibodies** to identify ethidium adducts produced in Trypanosoma brucei by photoaffinity labeling
AUTHOR(S): Omholt, Paul E.; Cox, Betty A.; Prine, Laura C.; Byrd, Suzanne; Yielding, Lerena W.; Yielding, K. Lemone
CORPORATE SOURCE: Dep. Hum. Biol. Chem. Genet. Pharmacol. Toxicol. Intern. Med., Univ. Texas Med. Branch, Galveston, TX, 77550, USA
SOURCE: Acta Tropica (1993), 55(4), 191-204
CODEN: ACTRAQ; ISSN: 0001-706X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A photoreactive **azido** analog of the trypanocide ethidium bromide, 3-amino-8-**azido**-5-ethyl-6-phenylphenanthridinium chloride, attached covalently to calf thymus DNA (CT DNA) by photoaffinity labeling, was used to generate **antibodies** for the drug analog. The specificity of the antiserum was tested by using ELISAs against immobilized antigen (photoaffinity labeled DNA) and by both the avidin-biotin peroxidase reaction and indirect immunofluorescence performed on smears of drug treated trypanosomes. The reaction of the antiserum with the covalently bound drug adduct was diminished effectively by prior incubation with an excess of ethidium monoazide, ethidium diazide, and ethidium bromide, and to a lesser extent by the DNA-ethidium complex, the diazide-DNA or RNA adduct, and the monoazide-RNA adduct. DNA which had been photoaffinity labeled with either the propidium or the acridine moiety did not react. The antiserum recognition of DNA photoaffinity labeled with ethidium monoazide was based on the substituted **phenanthridinium** ring system of the parent ethidium, as evidenced by competition binding studies involving the free monoazido analog (EA1), the diazido analog (EA2), and the parent compd., ethidium bromide (EB). This approach and the sensitivity it provides should prove useful for identifying the distribution and fate of covalently bound drugs resulting from antiparasitic drug treatment and for studying their roles in antiparasitic action.
CC 1-5 (Pharmacology)
Section cross-reference(s): 10
ST **azido** ethidium photoaffinity labeling DNA adduct; photoaffinity labeling ethidium DNA adduct identification; Trypanosoma ethidium DNA adduct identification **antibody**
IT Trypanosoma brucei
(ethidium adducts identification in, **antibodies** for)
IT Trypanosomicides
(ethidium-specific **antibodies** for ethidium adducts identification in Trypanosoma brucei in relation to)

IT **Antibodies**
RL: BIOL (Biological study)
(to ethidium deriv., for ethidium adducts identification in Trypanosoma brucei)
IT Deoxyribonucleic acids
RL: PROC (Process)
(adducts, with ethidium, identification of, in Trypanosoma brucei, **antibodies** for)
IT 65282-35-1DP, 3-Amino-8-**azido**-5-ethyl-6-phenylphenanthridinium chloride, reaction products with DNA
RL: SPN (Synthetic preparation); PREP (Preparation)
(antigen, prepn. of, for **antibody** prodn.)
IT 1239-45-8D, Ethidium bromide, DNA adducts
RL: PROC (Process)
(identification of, in Trypanosoma brucei, **antibodies** for)

L8 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1984:98469 HCAPLUS
DOCUMENT NUMBER: 100:98469
TITLE: Ethidium binding to deoxyribonucleic acid: spectrophotometric analysis of analogs with amino, **azido**, and hydrogen substituents
AUTHOR(S): Yielding, Lerena W.; Yielding, K. Lemone; Donoghue, Jennifer E.
CORPORATE SOURCE: Coll. Med., Univ. South Alabama, Mobile, AL, 36688, USA
SOURCE: Biopolymers (1984), 23(1), 83-110
CODEN: BIPMAA; ISSN: 0006-3525
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



I

AB The DNA-**ligand** interactions of a series of **phenanthridinium** compds. (I) with various combinations of NH2, N3-, and H functions at R3 and R8 were examd. to det. the contribution of these particular substituents to **ligand** binding. Spectrophometric titrns. using calf thymus DNA emphasized the importance of NH2 substituents in conferring a strong interaction and also stabilizing the interaction against reversal by high ionic strength. Although N3- groups were not as effective as NH2 groups, they were more effective than H functions in enhancing the interaction. Furthermore, an NH2 substitution at R8 was consistently, though only slightly, more effective than an NH2 substituent at R3. The results from superhelical titrns., using plasmid pBR322 DNA, demonstrated that analogs with NH2 and(or) N3- functions at both R3 and R8 produced the greatest unwinding, and compds. with an NH2 or an N3- function at R8 proved more effective than those with the corresponding NH2 or N3- substituent at R3.

CC 6-2 (General Biochemistry)
ST DNA ethidium substituent effect spectra; amino group ethidium DNA; **azido** group ethidium DNA; **phenanthridinium** substituent effect DNA interaction
IT Functional groups
(**azido**, in DNA interaction with ethidium bromide analogs)

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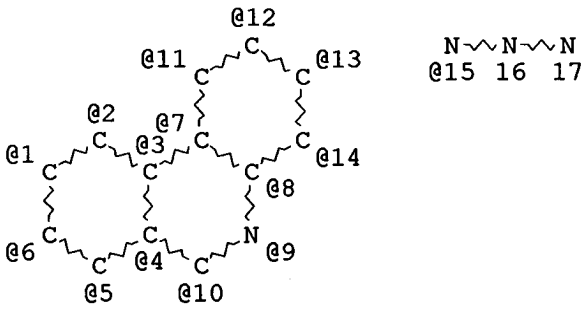
L11 STR



VPA 15-1/2/3/4/5/6/7/8/9/10/11/12/13/14 U
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 17

STEREO ATTRIBUTES: NONE
L13 139 SEA FILE=REGISTRY SSS FUL L11
L14 29 SEA FILE=HCAPLUS ABB=ON PLU=ON L13 AND (BIOMOL? OR LIGAND? OR ANTIBOD? OR ST RECEP? OR NEUROTENSIN? OR BINDING MOLECUL? OR BOMBESIN OR CCK OR STEROID RECEP? OR CARBOHYDRATE RECEP?)

=> d ibib abs hitind hitstr 1-29

L14 ANSWER 1 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:450245 HCAPLUS
DOCUMENT NUMBER: 137:30238
TITLE: Immunoassay based on DNA replication using labeled primer
INVENTOR(S): McNally, Alan J.; Wu, Robert S.; Li, Zhuyin
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 26 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002072053	A1	20020613	US 2000-733565	20001208

PRIORITY APPLN. INFO.: US 2000-733565 20001208

AB The invention concerns an immunoassay method based upon inhibition of a DNA polymerase enzyme accomplished by linking a **ligand** of the analyte to a primer through a covalent bond. The interaction between the primer-bound **ligand** and a receptor specific for the **ligand** inhibits the DNA polymerase enzyme from generating double

stranded DNA. The degree of inhibition of double stranded DNA synthesis is inversely proportional to the concn. of analyte in the sample. The analyte is detd. by measuring the formation of double stranded DNA, e.g., by a fluorescence DNA intercalation technique.

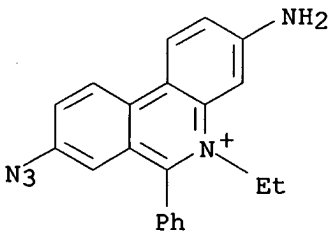
IC ICM C12Q001-68
NCL 435006000
CC 9-10 (Biochemical Methods)
Section cross-reference(s): 3, 6

IT **Antibodies**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(immunoassay based on DNA replication using labeled primer)

IT 65-61-2, Acridine orange 495-99-8, Hydroxystilbamidine 1239-45-8, Ethidium bromide 3546-21-2D, Ethidium, homodimers 3548-09-2, 9-Amino-6-chloro-2-methoxyacridine 7240-37-1, 7-Aminoactinomycin D 23491-45-4, Bisbenzimide 25535-16-4, Propidium iodide 47165-04-8, DAPI **58880-05-0**, Ethidium monoazide 76433-29-9, LDS-751 104821-25-2, Hydroethidine 143413-85-8, YOYO-1 161622-27-1, FluoroNissl Green 177571-06-1, PicoGreen 211566-66-4, Hexidium iodide
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(immunoassay based on DNA replication using labeled primer)

IT **58880-05-0**, Ethidium monoazide
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(immunoassay based on DNA replication using labeled primer)

RN 58880-05-0 HCAPLUS
CN Phenanthridinium, 3-amino-8-azido-5-ethyl-6-phenyl-, bromide (9CI) (CA INDEX NAME)



● Br^-

L14 ANSWER 2 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:825593 HCAPLUS
DOCUMENT NUMBER: 136:323679
TITLE: Conjugation of isometamidium chloride to **antibodies** and the use of the conjugate against the haemoflagellate, cryptobia salmositica katz, 1951: An immuno-chemotherapeutic strategy
AUTHOR(S): Ardelli, B. F.; Woo, P. T. K.
CORPORATE SOURCE: Department of Zoology and Axelrod Institute of Ichthyology, College of Biological Science, University of Guelph, Guelph, ON, N1G 2W1, Can.
SOURCE: Journal of Fish Diseases (2001), 24(8), 439-451
CODEN: JFIDDI; ISSN: 0140-7775
PUBLISHER: Blackwell Science Ltd.

DOCUMENT TYPE: Journal
LANGUAGE: English

AB The trypanocidal drug isometamidium chloride (Samorin) was conjugated to polyclonal and monoclonal **antibodies** produced against the pathogenic haemoflagellate Cryptobia salmositica. Under in vitro conditions the unconjugated drug normally accumulates rapidly in the kinetoplast in the parasite; however, once it was conjugated to **antibodies** (either polyclonal or monoclonal) it was found throughout the parasite. Isometamidium conjugated to polyclonal **antibodies** lysed C. salmositica under in vitro conditions, but parasites were not agglutinated. In contrast, isometamidium conjugated to monoclonal **antibodies** (against a 200 kDa surface membrane glycoprotein) did not lyse C. salmositica, but parasites were agglutinated. Because of the low efficacy of the monoclonal conjugate against the parasite in vitro, its cryptobiocidal effect was not evaluated further. The infectivity of C. salmositica (incubated either in culture medium or whole blood) was reduced in fish after in vitro exposure to isometamidium conjugated to polyclonal **antibodies**. Parasitemias were reduced in infected chinook salmon, Oncorhynchus tshawytscha, after treatment with isometamidium conjugated to polyclonal **antibodies**
.

CC 15-3 (Immunochemistry)
Section cross-reference(s): 12

ST isometamidium chloride **antibody** conjugate Cryptobia

IT **Antibodies**
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(Isometamidium chloride conjugate; conjugation of isometamidium chloride to **antibodies** and the use of the conjugate against the haemoflagellate, Cryptobia salmositica)

IT Cryptobia salmositica
(conjugation of isometamidium chloride to **antibodies** and the use of the conjugate against the haemoflagellate, Cryptobia salmositica)

IT Oncorhynchus mykiss
Oncorhynchus tshawytscha
(conjugation of isometamidium chloride to **antibodies** and the use of the conjugate against the haemoflagellate, Cryptobia salmositica in)

IT **Antibodies**
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(monoclonal, Isometamidium chloride conjugate; conjugation of isometamidium chloride to **antibodies** and the use of the conjugate against the haemoflagellate, Cryptobia salmositica)

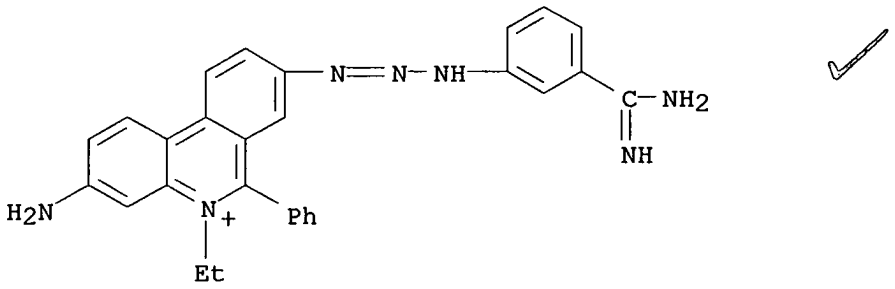
IT **34301-55-8DP**, Isometamidium chloride, **antibody** or monoclonal **antibody** conjugates
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(conjugation of isometamidium chloride to **antibodies** and the use of the conjugate against the haemoflagellate, Cryptobia salmositica)

IT **34301-55-8DP**, Isometamidium chloride, **antibody** or monoclonal **antibody** conjugates
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(conjugation of isometamidium chloride to **antibodies** and the

use of the conjugate against the haemoflagellate, Cryptobia salmositica)

RN 34301-55-8 HCAPLUS

CN Phenanthridinium, 3-amino-8-[3-[3-(aminoiminomethyl)phenyl]-1-triazenyl]-5-ethyl-6-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 8 OF 29 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:314532 HCAPLUS

DOCUMENT NUMBER: 136:226121

TITLE: Cryptobiosis and its control in North American fishes

AUTHOR(S): Woo, P. T. K.

CORPORATE SOURCE: College of Biological Science, Department of Zoology and Axelrod Institute of Ichthyology, University of Guelph, Guelph, ON, N1G 2W1, Can.

SOURCE: International Journal for Parasitology (2001), 31(5-6), 566-574
CODEN: IJPYBT; ISSN: 0020-7519

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

AB A review. Cryptobiosis is caused by the hemoflagellates Cryptobia bullockii and Cryptobia salmositica. These parasites infect food fishes (e.g. flounders, salmon) on both the Atlantic and Pacific coasts of North America and clin. signs of the disease include anemia and abdominal distention with ascites. The virulent factor in salmonid Cryptobiosis, caused by C. salmositica, is a secretory metalloprotease (200 kDa). Fish mortality may be up to 100% in the absence of treatment, consequently strategies have been developed to protect them from disease/mortality. A single dose of a live vaccine protects fish for at least 2 yr, and it is via the prodn. of complement-fixing **antibodies**, enhanced phagocytosis, and cell-mediated cytotoxicity. Inhibition of the parasite's cysteine protease by a monoclonal **antibody** reduces multiplication, infectivity, and survival of the parasite. Consequently, the recombinant cysteine protease (49 kDa) of the parasite will be tested as a potential vaccine. The trypanocidal drug, isometamidium chloride (1.0 mg/kg), is effective (therapeutic and prophylactic) against C. salmositica in chinook salmon. Its efficacy is significantly enhanced if

it is conjugated either to a monoclonal **antibody** or to polyclonal **antibodies** from immune fish. Selective breeding of Cryptobia-resistant brook charr (innate resistance to infection) is possible, and the resistant factor(s) is controlled by a dominant Mendelian locus. In these resistant charr, the parasite is lysed via the alternate pathway of complement activation (innate immunity to infection). There are also Cryptobia-tolerant charr, fish that are susceptible to infection but have no clin. disease (innate resistance to disease). In these fish, one of the natural anti-proteases, .alpha.2-macroglobulin, neutralizes the metalloprotease secreted by C. salmositica. Prodn. of transgenic Cryptobia-tolerant salmon is an option to vaccination and or chemotherapy. Also, transgenic pathogen-tolerant animals may be an alternate strategy against other pathogens where the disease mechanism is similar to Cryptobiosis.

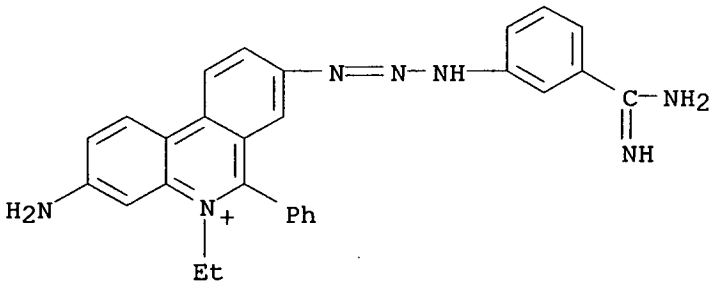
CC 1-0 (Pharmacology)
Section cross-reference(s): 14, 17

IT **34301-55-8**, Isometamidium chloride
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Cryptobiosis and its control in North American fishes)

IT **34301-55-8**, Isometamidium chloride
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Cryptobiosis and its control in North American fishes)

RN 34301-55-8 HCAPLUS

CN Phenanthridinium, 3-amino-8-[3-[3-(aminoiminomethyl)phenyl]-1-triazenyl]-5-ethyl-6-phenyl-, chloride (9CI) (CA INDEX NAME)



REFERENCE COUNT: 62 THERE ARE 62 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 4 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:152000 HCAPLUS
DOCUMENT NUMBER: 134:338114
TITLE: The in vitro effects of isometamidium chloride (samorin) on the piscine hemoflagellate Cryptobia salmositica (Kinetoplastida, Bodonina)
AUTHOR(S): Ardelli, Bernadette F.; Woo, Patrick T. K.
CORPORATE SOURCE: Department of Zoology, University of Guelph, Guelph, ON, N1G 2W1, Can.
SOURCE: Journal of Parasitology (2001), 87(1), 194-202
CODEN: JOPAA2; ISSN: 0022-3395

PUBLISHER: American Society of Parasitologists
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Isometamidium chloride (Samorin) is therapeutic in rainbow trout (Oncorhynchus mykiss) during preclin. and chronic cryptobiosis. However, the toxic mechanism of isometamidium on Cryptobia salmositica has not been elucidated. The objective of the present study was to examine the in vitro effects of isometamidium on C. salmositica. Under in vitro conditions, isometamidium chloride reduced the infectivity of C. salmositica suspended in whole fish blood. It accumulated rapidly in the kinetoplast (within 1 min) and caused disruption and decantenation of kinetoplast DNA. The in vitro cryptobiacidal activity of isometamidium was reduced when parasites were incubated in medium contg. serum supplement, suggesting that isometamidium also binds to plasma proteins. Isometamidium altered glycoprotein receptors (epitopes) for **antibodies** on the surface of C. salmositica and thus protected some of the parasites from lysis by complement-fixing **antibodies** . In vitro oxygen consumption and carbon dioxide prodn. decreased in drug-exposed C. salmositica, with increased products of glycolysis, i.e., lactate and pyruvate, after exposure to isometamidium. This suggests that some C. salmositica switched from aerobic respiration to glycolysis when the mitochondrion was damaged by isometamidium.

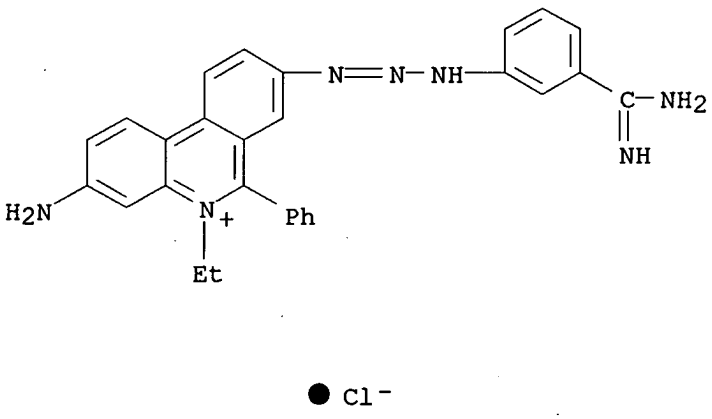
CC 10-5 (Microbial, Algal, and Fungal Biochemistry)
Section cross-reference(s): 12

IT **34301-55-8**, Isometamidium chloride
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(samorin; effects of isometamidium chloride on Cryptobia salmositica)

IT **34301-55-8**, Isometamidium chloride
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(samorin; effects of isometamidium chloride on Cryptobia salmositica)

RN 34301-55-8 HCAPLUS

CN Phenanthridinium, 3-amino-8-[3-[3-(aminoiminomethyl)phenyl]-1-triazenyl]-5-ethyl-6-phenyl-, chloride (9CI) (CA INDEX NAME)



REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 5 OF 29 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:302483 HCAPLUS
DOCUMENT NUMBER: 133:213
TITLE: An antigen-capture enzyme-linked immunosorbent assay (ELISA) to detect isometamidium chloride in Oncorhynchus spp.
AUTHOR(S): Ardelli, B. F.; Woo, P. T. K.
CORPORATE SOURCE: Department of Zoology, University of Guelph, Guelph, ON, N1G 2W1, Can.
SOURCE: Diseases of Aquatic Organisms (2000), 39(3), 231-236
CODEN: DAOREO; ISSN: 0177-5103
PUBLISHER: Inter-Research
DOCUMENT TYPE: Journal
LANGUAGE: English

AB An antigen-capture ELISA (ELISA) was developed to detect and measure isometamidium HCl in the blood plasma of Oncorhynchus tshawytscha and O. mykiss. Isometamidium-ovalbumin conjugate and anti-isometamidium **antibodies** were used to coat polystyrene plates. The peroxidase satn. technique was used to optimize the coating antigen concn.; it demonstrated low affinity of the isometamidium-ovalbumin conjugate but high affinity of the anti-isometamidium **antibodies** for polystyrene surface sites. The optimal conditions of anti-isometamidium **antibodies** to coat plates was at pH 7.3 and a 1:1000 diln. (0.0012 mg ml-1 protein). T he ELISA was sensitive as it detected 0.0006 mg ml-1 of isometamidium in fish plasma. Isometamidium dild. with saline could not be detected at concns. <0.05 mg ml-1. The results indicate that this ELISA is much more sensitive when isometamidium is bound to plasma than unbound isometamidium in saline.

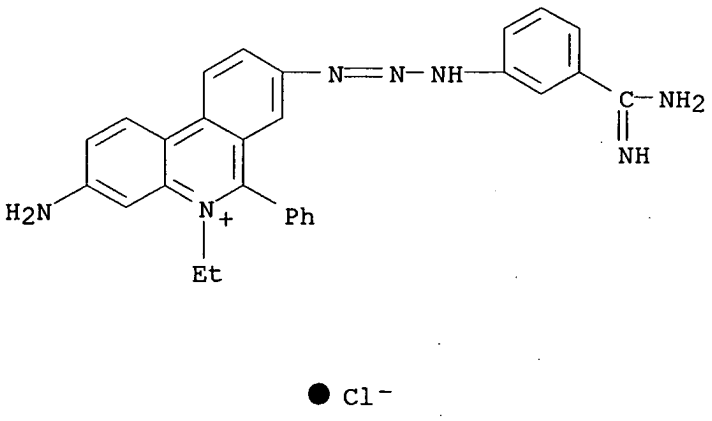
CC 1-1 (Pharmacology)

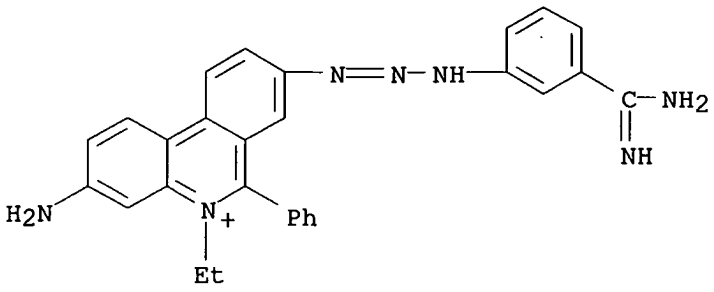
IT **34301-55-8**, Isometamidium chloride
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(antigen-capture ELISA to detect isometamidium chloride in Oncorhynchus spp.)

IT **34301-55-8**, Isometamidium chloride
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(antigen-capture ELISA to detect isometamidium chloride in Oncorhynchus spp.)

RN 34301-55-8 HCAPLUS

CN Phenanthridinium, 3-amino-8-[3-[3-(aminoiminomethyl)phenyl]-1-triazenyl]-5-ethyl-6-phenyl-, chloride (9CI) (CA INDEX NAME)





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REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 6 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:163471 HCAPLUS
DOCUMENT NUMBER: 133:116855
TITLE: Phase-sensitive flow cytometry: fluorescence lifetime-based sensing technology for analyzing free fluorophore and cells/particles labeled with fluorescent probes
AUTHOR(S): Steinkamp, John A.
CORPORATE SOURCE: Los Alamos National Lab., Los Alamos, NM, USA
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (1999), 3858 (Advanced Materials and Optical Systems for Chemical and Biological Detection), 151-160
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A phase-sensitive cytometer that combines flow cytometry and fluorescence lifetime spectroscopy measurement principles to provide unique features for making frequency-domain lifetime measurements on free fluorophore (soln.) and on fluorophore-labeled cells/particles in real time was developed. No other instrument can quantify lifetimes directly and resolve heterogeneous fluorescence based on differences in lifetimes (expressed as phase shifts), while maintaining the capability to make conventional flow cytometric measurements. The technol. has been characterized with respect to measurement precision, linearity, sensitivity, and dynamic range. Fluorescence lifetime distributions have been measured on autofluorescence lung cells, thymocytes labeled with **antibody** conjugated to fluorophores for studying fluorescence quenching as a function of **antibody** diln. and F/P ratio, cells stained with DNA-binding fluorochromes, and on particles labeled with fluorophores and free fluorophore (soln.). Phase-resolved, fluorescence signal- intensity histograms have been recorded on thymocytes labeled with a phycoerythrin/Texas Red tandem conjugate and propidium iodide to demonstrate the resoln. of signals from highly overlapping emission spectra. This technol. adds a new dimension to flow analyses of free and cell/particle-bound fluorophore. Lifetimes can be used as spectroscopic probes to study the interaction of markers with their targets, each other,

and the surrounding microenvironment.

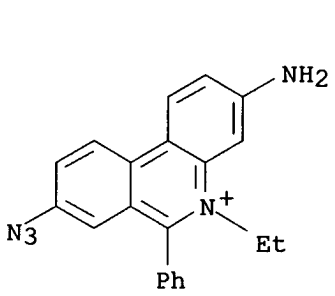
CC 9-1 (Biochemical Methods)

IT 1239-45-8, Ethidium bromide 7240-37-1, 7-Amino actinomycin D 23491-52-3, Hoechst 33342 25535-16-4, Propidium iodide **58880-05-0**
RL: ARU (Analytical role, unclassified); ANST (Analytical study) (theory and instrumentation development of phase sensitive flow cytometry and biol. applications)

IT **58880-05-0**
RL: ARU (Analytical role, unclassified); ANST (Analytical study) (theory and instrumentation development of phase sensitive flow cytometry and biol. applications)

RN 58880-05-0 HCAPLUS

CN Phenanthridinium, 3-amino-8-azido-5-ethyl-6-phenyl-, bromide (9CI) (CA INDEX NAME)



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REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 7 OF 29 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1999:800079 HCAPLUS

DOCUMENT NUMBER: 132:245885

TITLE: The therapeutic use of isometamidium chloride against Cryptobia salmositica in rainbow trout (Oncorhynchus mykiss)

AUTHOR(S): Ardelli, B. F.; Woo, P. T. K.

CORPORATE SOURCE: Department of Zoology, University of Guelph, Guelph, ON, N1G 2W1, Can.

SOURCE: Diseases of Aquatic Organisms (1999), 37(3), 195-203
CODEN: DAOREO; ISSN: 0177-5103

PUBLISHER: Inter-Research

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Rainbow trout injected i.m. with isometamidium chloride (0.01 or 0.1 mg kg-1) at 3 wk postinfection and given a booster 2 wk later had significantly lower parasitemias than infected controls. Packed cell vol. increased after treatment and remained higher than in infected controls. The concn. of isometamidium in plasma was highest at 2 wk after injection and then declined. An i.m. dose of 1.0 mg kg-1 isometamidium chloride at 1, 2, and 3 wk postinfection (preclin.) significantly reduced the parasitemia in rainbow trout 2 wk after treatment. A booster at 9 wk postinfection (chronic disease phase) reduced the parasitemia further in

all fish. The packed cell vol. in these fish was higher than in infected controls. Treatment at 5, 6, and 7 wk postinfection (acute disease) had no effects and parasitemias in treated fish were higher than in infected controls; also, anti-Cryptobia salmositica **antibodies** and titers of complement-fixing **antibody** were higher in these than in infected controls. Incubation of immune plasma or complement with isometamidium for 3 h did not affect the lytic titers of complement-fixing **antibodies** nor rainbow trout complement.

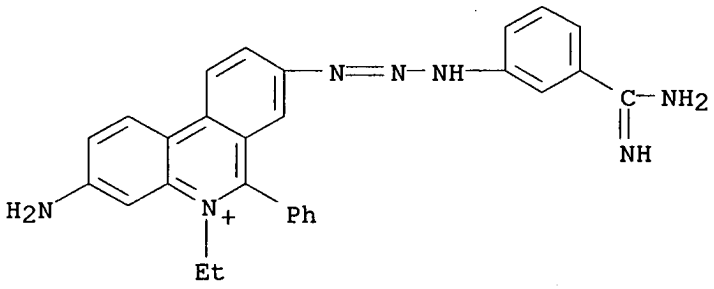
CC 1-5 (Pharmacology)

IT **34301-55-8**, Isometamidium chloride
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(therapeutic use of isometamidium chloride against Cryptobia salmositica in rainbow trout)

IT **34301-55-8**, Isometamidium chloride
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(therapeutic use of isometamidium chloride against Cryptobia salmositica in rainbow trout)

RN 34301-55-8 HCAPLUS

CN Phenanthridinium, 3-amino-8-[3-[3-(aminoiminomethyl)phenyl]-1-triazenyl]-5-ethyl-6-phenyl-, chloride (9CI) (CA INDEX NAME)



REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 8 OF 29 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1999:52664 HCAPLUS

DOCUMENT NUMBER: 130:231964

TITLE: Affinity chromatography using trypanocidal arsenical drugs identifies a specific interaction between glycerol-3-phosphate dehydrogenase from Trypanosoma brucei and Cymelarsan

AUTHOR(S): Denise, Hubert; Giroud, Christiane; Barrett, Michael Peter; Baltz, Theo

CORPORATE SOURCE: Laboratoire de Biologie Moleculaire des Protozoaires Parasites, UPRESA-CNRS 5016, Bordeaux, 33076, Fr.

SOURCE: European Journal of Biochemistry (1999), 259(1/2), 339-346
CODEN: EJBCAI; ISSN: 0014-2956

PUBLISHER: Blackwell Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A 36-kDa protein was isolated by affinity chromatog. using Cymelarsan, an arsenical drug currently used in African trypanosomiasis treatment, as **ligand**. This protein was identified as glycerol-3-phosphate dehydrogenase. Trypanosomal glycerol-3-phosphate was bound covalently, whereas its counterpart from rabbit muscle bound by ionic interaction. Arsenical drugs inhibit the enzyme in a dose-dependent manner. Oxidn. of cysteine residues protects against inactivation without significantly diminishing enzymic activity. Drug concns. giving 50% inhibition of the dehydrogenase activity were detd. for the enzyme from both Trypanosoma brucei and rabbit and indicate a higher sensitivity of the trypanosomal enzyme to arsenical drugs and thiol reagents. MS was used to identify residues of glycerol-3-phosphate dehydrogenase bound by Cymelarsan; they are not conserved in the mammalian enzyme.

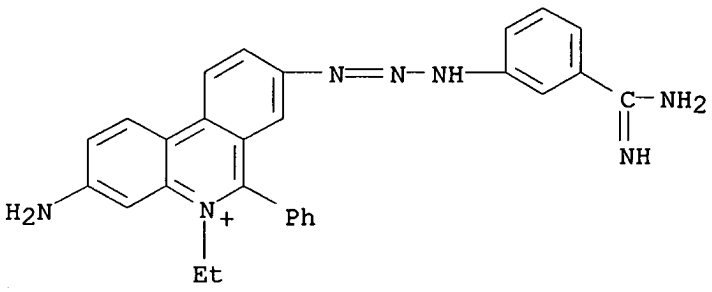
CC 1-5 (Pharmacology)

IT 100-33-4, Pentamidine 128-53-0, N-Ethylmaleimide 133-51-7, Glucantime 145-63-1, Suramin 494-79-1, Melarsoprol 908-54-3, Berenil 3270-78-8, Quinapyramine 7487-94-7, Mercuric chloride, biological studies 12544-35-3, Antimonyl tartrate **20438-03-3**, Isometamidium 147646-91-1, LG 1
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(effect of trypanocidal drugs and thiol reagents on glycerol-3-phosphate dehydrogenase activity)

IT **20438-03-3**, Isometamidium
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(effect of trypanocidal drugs and thiol reagents on glycerol-3-phosphate dehydrogenase activity)

RN 20438-03-3 HCAPLUS

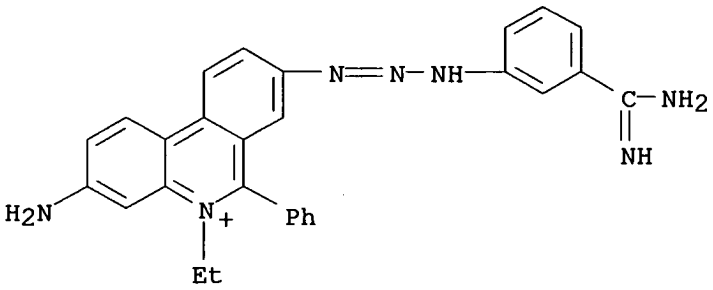
CN Phenanthridinium, 3-amino-8-[3-[3-(aminoiminomethyl)phenyl]-1-triazenyl]-5-ethyl-6-phenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 9 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:469644 HCAPLUS
DOCUMENT NUMBER: 129:254280
TITLE: Drug sensitivity of Trypanosoma evansi and the use of immunoassays in diagnosing infections with T. evansi in buffaloes in Vietnam

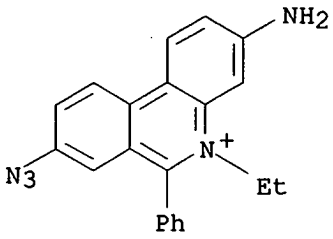
AUTHOR(S): My, Le Ngoc; Wuyts, N.; Luckins, A. G.; Dung, Nguyen Anh; Thanh, Nguyen Thi Giang
CORPORATE SOURCE: National Institute of Veterinary Research, Hanoi, Vietnam
SOURCE: Annals of the New York Academy of Sciences (1998), 849(Tropical Veterinary Medicine), 188-194
CODEN: ANYAA9; ISSN: 0077-8923
PUBLISHER: New York Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The biol. characteristics of isolates of T.evansi collected from buffalo in different provinces in North Vietnam was detd. in terms of their sensitivity to drugs currently used in the treatment of trypanosomosis. Five isolates were collected from buffalo, cloned and then tested against Trypamidium, Samorine, Naganol and Veriben. All isolates were sensitive to Naganol and Veriben. An isolate from a buffalo in Ha bac province (Hb1) was the least sensitive with trypamidium at a CD80 > 128mg/kg, more than 8 times the CD 100 of the remining isolates (16mg/kg). An antigen-detection enzyme immunoassay (Ag-ELISA) based on a T.evansi-specific monoclonal **antibody** was evaluated for its ability to detect infections with T.evansi in buffalo. The sensitivity of the Ag-ELISA was 63% and the specificity 75%. The pos. predictive value of this assay was too low to allow identification of individual infected animals on the results of a single test in the districts investigated. For definitive diagnosis, a serial testing protocol was used, where a more specific test, the card agglutination test (CATT) was used initially and any pos. samples was then checked by the Ag-ELISA.
CC 1-1 (Pharmacology)
IT 145-63-1, Naganol 908-54-3, Veriben **6798-24-9**, Samorin
RL: ANT (Analyte); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(drug sensitivity of Trypanosoma evansi and the use of immunoassays in diagnosing infections with T. evansi in buffaloes in Vietnam)
IT **6798-24-9**, Samorin
RL: ANT (Analyte); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(drug sensitivity of Trypanosoma evansi and the use of immunoassays in diagnosing infections with T. evansi in buffaloes in Vietnam)
RN 6798-24-9 HCAPLUS
CN Phenanthridinium, 3-amino-8-[3-[3-(aminoiminomethyl)phenyl]-1-triazenyl]-5-ethyl-6-phenyl-, chloride, monohydrochloride (9CI) (CA INDEX NAME)



● Cl⁻

● HCl

L14 ANSWER 10 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:433066 HCAPLUS
DOCUMENT NUMBER: 125:135489
TITLE: Covalent interactions of ethidium and actinomycin D with nucleic acids: photoaffinity labeling of DNA
AUTHOR(S): Graves, David E.
CORPORATE SOURCE: Univ. Mississippi, University, MS, USA
SOURCE: Advances in DNA Sequence Specific Agents (1996), 2, 169-186
CODEN: ADNAEO; ISSN: 1067-568X
PUBLISHER: JAI Press
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review with 42 refs. Photoaffinity labeling is a powerful tool for examn. of the interactions and mechanisms of **ligand** binding by nucleic acids. Using reversible DNA binding agents that can be converted to stable covalent adducts, such as the photoreactive analogs 7-azidoactinomycin D and 8-azidoethidium bromide, insight into **ligand** binding and sequence selectivity may be obtained and DNA structure and structural transitions may be studied.
CC 6-0 (General Biochemistry)
Section cross-reference(s): 9
IT **58880-05-0** 121051-59-0, 7-Azidoactinomycin D
RL: BPR (Biological process); BSU (Biological study, unclassified); NUU (Other use, unclassified); BIOL (Biological study); PROC (Process); USES (Uses)
(photoaffinity labeling of DNA)
IT **58880-05-0**
RL: BPR (Biological process); BSU (Biological study, unclassified); NUU (Other use, unclassified); BIOL (Biological study); PROC (Process); USES (Uses)
(photoaffinity labeling of DNA)
RN 58880-05-0 HCAPLUS
CN Phenanthridinium, 3-amino-8-azido-5-ethyl-6-phenyl-, bromide (9CI) (CA INDEX NAME)



● Br^-

L14 ANSWER 11 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:563186 HCAPLUS
DOCUMENT NUMBER: 123:191447
TITLE: Photoaffinity approaches to determining the sequence selectivities of DNA-small molecule interactions: actinomycin D and ethidium
AUTHOR(S): Marsch, Glenn A.; Graves, David E.; Rill, Randolph L.
CORPORATE SOURCE: Dep. Chem. Inst. Mol. Biophys., Florida State Univ., Tallahassee, FL, 32306-3006, USA
SOURCE: Nucleic Acids Research (1995), 23(7), 1252-9
CODEN: NARHAD; ISSN: 0305-1048
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English

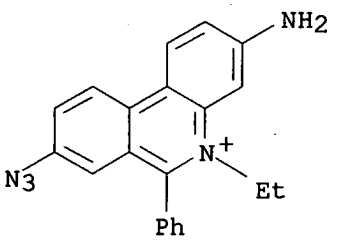
AB The DNA photoaffinity **ligands**, 7-azidoactinomycin D and 8-azidoethidium, form DNA adducts that cause chain cleavage upon treatment with piperidine. Chem. DNA sequencing techniques were used to detect covalent binding. The relative preferences for modifications of all possible sites defined by a base pair step (e.g. GC) were detd. within all quartet contexts such as (IGCJ). These preferences are described in terms of 'effective site occupations', which express the ability of a **ligand** to covalently modify some base in the binding site. Ideally, the effective site occupations measured for photoaffinity agents can also be related to site-specific, non-covalent assocn. consts. of the **ligand**. The sites most reactive with 7-azidoactinomycin D were those preferred for non-covalent binding of unsubstituted actinomycin D. GC sites were most reactive, but next-nearest neighbors exerted significant influences on reactivity. GC sites in 5'-(pyrimidine)GC(purine)-3' contexts, particularly TGCA, were most reactive, while reactivity was strongly suppressed for GC sites with a 5'-flanking G, or a 3'-flanking C. High reactivities were also obsd. for bases in the first (5') GG steps in TGGT, TGGG and TGGGT sequences recently shown to bind actinomycin D with high affinity. Pyrimidine-3',5'-purine steps and GG steps flanked by a T were most preferred by 8-azidoethidium, in agreement with the behavior of unsubstituted ethidium. The good correspondence between expected and obsd. covalent binding preferences of these two azide analogs demonstrates that photoaffinity labeling can identify highly preferred sites of non-covalent DNA binding by small mols.

CC 6-2 (General Biochemistry)
Section cross-reference(s): 8

IT **69498-50-6**, 8-Azidoethidium 121051-59-0, 7-Azidoactinomycin D
RL: RCT (Reactant); RACT (Reactant or reagent)
(as photoaffinity **ligand** for DNA; photoaffinity approaches to detg. sequence selectivities of DNA-small mol. interactions: actinomycin D and ethidium)

IT **69498-50-6**, 8-Azidoethidium
RL: RCT (Reactant); RACT (Reactant or reagent)
(as photoaffinity **ligand** for DNA; photoaffinity approaches to detg. sequence selectivities of DNA-small mol. interactions: actinomycin D and ethidium)

RN 69498-50-6 HCAPLUS
CN Phenanthridinium, 3-amino-8-azido-5-ethyl-6-phenyl- (9CI) (CA INDEX NAME)



L14 ANSWER 12 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:513752 HCAPLUS
DOCUMENT NUMBER: 122:263539
TITLE: Process for the determination of phagocytosis and/or killing ability
INVENTOR(S): Husfeld, Luciana
PATENT ASSIGNEE(S): Germany
SOURCE: Ger., 15 pp.
CODEN: GWXXAW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4334935	C1	19950309	DE 1993-4334935	19931013
WO 9510778	A1	19950420	WO 1994-DE1191	19941011

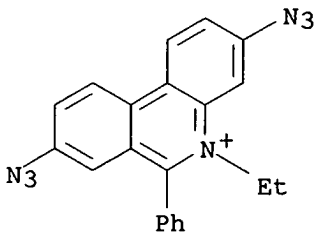
W: JP, US
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

PRIORITY APPLN. INFO.: DE 1993-4334935 19931013

AB The invention concerns a process for the detn. of phagocytosis and/or killing ability of phagocytic cell systems such as granulocytes, monocytes or macrophages (phagocytes), whereby phagocytes are added with a defined amt. of microorganisms marked with fluorescent dye (probe) and the probe produced in this manner is mixed with a buffered nutrient medium contg. a defined amt. of glucose. Subsequently it is incubated in and of itself by a known manner, and the phagocytosis and the killing are stopped through cooling and/or a stop soln. Subsequently the phagocytic ability and/or the killing ability is detd. by means of a fluorescence cytometer.

IC ICM C12Q001-00
ICS C12Q001-02; G01N033-53; C09B011-28; C09B057-00; C09K011-06

ICI C12Q001-02, C12R001-725, C12R001-445, C12R001-125, C12R001-46, C12R001-19
CC 15-6 (Immunochemistry)
IT **Antibodies**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(in detn. of phagocytosis and/or killing ability using a fluorescence cytometer)
IT 50-99-7, Glucose, biological studies 288-42-6, Oxazole 2321-07-5, Fluorescein 13558-31-1 13558-31-1D, sulfo derivs. 28589-79-9, Thiazolium 38483-26-0 61926-22-5, Ethidium homodimer
67620-23-9, Ethidium diazide 109244-58-8, Dihydrorhodamine 123
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(in detn. of phagocytosis and/or killing ability using a fluorescence cytometer)
IT **67620-23-9**, Ethidium diazide
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(in detn. of phagocytosis and/or killing ability using a fluorescence cytometer)
RN 67620-23-9 HCAPLUS
CN Phenanthridinium, 3,8-diazido-5-ethyl-6-phenyl- (9CI) (CA INDEX NAME)



L14 ANSWER 13 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:494630 HCAPLUS
DOCUMENT NUMBER: 122:234390
TITLE: Photosensitization method of inactivation of viral and bacterial blood contaminants
INVENTOR(S): Platz, Matthew S.; Goodrich, Raymond P., Jr.; Yerram, Nagendar
PATENT ASSIGNEE(S): Cryopharm Corp., USA
SOURCE: PCT Int. Appl., 169 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 12
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9502324	A1	19950126	WO 1994-US7499	19940706
W: AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5418130	A	19950523	US 1993-91674	19930713
AU 9472177	A1	19950213	AU 1994-72177	19940706

PRIORITY APPLN. INFO.:

US 1993-91674	A	19930713
US 1990-510234	A	19900416
US 1990-632277	A	19901220
US 1991-656254	A	19910215
US 1991-685931	A	19910416
US 1992-825691	A	19920127
US 1993-47749	A	19930414
WO 1994-US7499	W	19940706

OTHER SOURCE(S): MARPAT 122:234390

AB A method is provided for inactivating viral and/or bacterial contamination in blood cellular matter, e.g. erythrocytes, platelets, or protein fractions. The cells or protein fractions are mixed with chem. sensitizers and irradiated with e.g. UV, visible, gamma, or x-ray radiation. Prepn. of some sensitizer compds. is included, as are inactivation studies.

IC ICM A01N001-02

CC 8-9 (Radiation Biochemistry)
Section cross-reference(s): 28

IT Membrane, biological
(membrane-**binding mols.**, sensitizers; photosensitization method of inactivation of viral and bacterial and parasitic contaminants in blood (component) or cell culture (component))

IT Nucleic acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(nucleic acid-**binding mol.**-derived mols., sensitizers; photosensitization method of inactivation of viral and bacterial and parasitic contaminants in blood (component) or cell culture (component))

IT Albumins, biological studies
Animal growth regulators
Antibodies
Blood-coagulation factors
Hormones
Immunoglobulins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(photosensitization method of inactivation of viral and bacterial and parasitic contaminants in blood (component) or cell culture (component))

IT **Ligands**
Receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(receptor-binding **ligand**-derived mols., sensitizers; photosensitization method of inactivation of viral and bacterial and parasitic contaminants in blood (component) or cell culture (component))

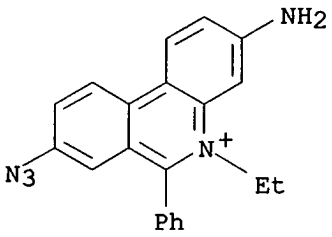
IT **Antibodies**
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation)
(monoclonal, hybridoma producing; photosensitization method of inactivation of viral and bacterial and parasitic contaminants in blood (component) or cell culture (component))

IT 11121-48-5, Rose bengal 17372-87-1, Eosin Y 64358-50-5
65282-35-1 74165-97-2 81771-16-6 102791-10-6 123943-96-4
150375-73-8 150391-39-2 156574-50-4 162327-40-4 162327-41-5
162327-42-6 162327-43-7
RL: BAC (Biological activity or effector, except adverse); BSU (Biological

study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(photosensitization method of inactivation of viral and bacterial and parasitic contaminants in blood (component) or cell culture (component))

IT **65282-35-1**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(photosensitization method of inactivation of viral and bacterial and parasitic contaminants in blood (component) or cell culture (component))

RN 65282-35-1 HCAPLUS
CN Phenanthridinium, 3-amino-8-azido-5-ethyl-6-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L14 ANSWER 14 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:671148 HCAPLUS
DOCUMENT NUMBER: 121:271148
TITLE: Generation of monoclonal **antibodies** to the anti-trypanosomal drug isometamidium
AUTHOR(S): Peregrine, Andrew S.; Eisler, Mark C.; Katende, Joseph; Flynn, J. Norman; Gault, Elizabeth A.; Kinabo, Ludovic D.B.; Holmes, Peter H.
CORPORATE SOURCE: International Laboratory for Research on Animal Diseases, Nairobi, Kenya
SOURCE: Hybridoma (1994), 13(4), 289-94
CODEN: HYBRDY; ISSN: 0272-457X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Mice were immunized with either an isometamidium-human serum albumin (HSA) conjugate or an isometamidium-porcine thyroglobulin conjugate (PTG). Thereafter, monoclonal **antibodies** (MAbs) IL-A 1001, IL-A 1002, IL-A 1003, 5F7.B7, and 5F7.C9 were generated and selected on the basis that they recognized conjugated and unconjugated isometamidium, but lacked cross-reactivity with the carrier mols. All five MAbs were of the IgG1 isotype. Each of the five MAbs was assessed in a competitive ELISA for isometamidium; in each case, the min. level of detection was approx. 10 ng/mL. Each MAb exhibited approx. 0.1% cross-reactivity with the anti-trypanosomal compd. diminazene. However, based on their cross-reactivity with the anti-trypanosomal compd. homidium, the MAbs

could be divided into two groups; IL-A 1001, IL-A 1002, and IL-A 1003, produced using an isometamidium-HSA conjugate as an immunogen, exhibited low levels of cross-reactivity (approx. 0.1%). In contrast, 5F7.B7 and 5F7.C9, produced using an isometamidium-PTG conjugate as an immunogen, exhibited high levels of cross-reactivity.

CC 1-1 (Pharmacology)
Section cross-reference(s): 15

ST monoclonal **antibody** antitrypanosomal drug isometamidium ELISA

IT Trypanosomicides
(generation of monoclonal **antibodies** to anti-trypanosomal drug isometamidium in ELISA)

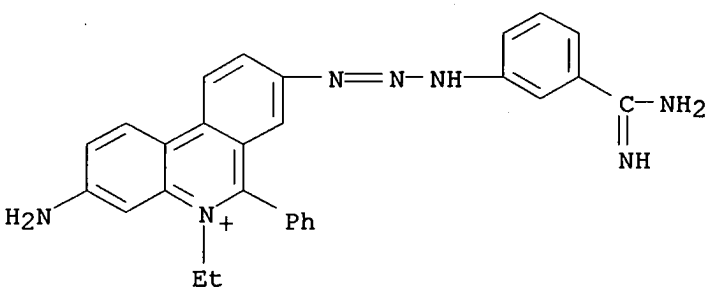
IT **Antibodies**
RL: BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation)
(monoclonal, generation of monoclonal **antibodies** to anti-trypanosomal drug isometamidium in ELISA)

IT **20438-03-3**, Isometamidium
RL: ANT (Analyte); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(generation of monoclonal **antibodies** to anti-trypanosomal drug isometamidium in ELISA)

IT **20438-03-3**, Isometamidium
RL: ANT (Analyte); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(generation of monoclonal **antibodies** to anti-trypanosomal drug isometamidium in ELISA)

RN 20438-03-3 HCAPLUS

CN Phenanthridinium, 3-amino-8-[3-[3-(aminoiminomethyl)phenyl]-1-triazenyl]-5-ethyl-6-phenyl- (9CI) (CA INDEX NAME)



L14 ANSWER 15 OF 29 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1994:400266 HCAPLUS

DOCUMENT NUMBER: 121:266

TITLE: Use of drug-specific **antibodies** to identify ethidium adducts produced in Trypanosoma brucei by photoaffinity labeling

AUTHOR(S): Omholt, Paul E.; Cox, Betty A.; Prine, Laura C.; Byrd, Suzanne; Yielding, Lerena W.; Yielding, K. Lemone

CORPORATE SOURCE: Dep. Hum. Biol. Chem. Genet. Pharmacol. Toxicol. Intern. Med., Univ. Texas Med. Branch, Galveston, TX,

77550, USA
SOURCE: Acta Tropica (1993), 55(4), 191-204
CODEN: ACTRAQ; ISSN: 0001-706X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A photoreactive azido analog of the trypanocide ethidium bromide, 3-amino-8-azido-5-ethyl-6-phenylphenanthridinium chloride, attached covalently to calf thymus DNA (CT DNA) by photoaffinity labeling, was used to generate **antibodies** for the drug analog. The specificity of the antiserum was tested by using ELISAs against immobilized antigen (photoaffinity labeled DNA) and by both the avidin-biotin peroxidase reaction and indirect immunofluorescence performed on smears of drug treated trypanosomes. The reaction of the antiserum with the covalently bound drug adduct was diminished effectively by prior incubation with an excess of ethidium monoazide, ethidium diazide, and ethidium bromide, and to a lesser extent by the DNA-ethidium complex, the diazide-DNA or RNA adduct, and the monoazide-RNA adduct. DNA which had been photoaffinity labeled with either the propidium or the acridine moiety did not react. The antiserum recognition of DNA photoaffinity labeled with ethidium monoazide was based on the substituted phenanthridinium ring system of the parent ethidium, as evidenced by competition binding studies involving the free monoazido analog (EA1), the diazido analog (EA2), and the parent compd., ethidium bromide (EB). This approach and the sensitivity it provides should prove useful for identifying the distribution and fate of covalently bound drugs resulting from antiparasitic drug treatment and for studying their roles in antiparasitic action.

CC 1-5 (Pharmacology)
Section cross-reference(s): 10

ST azido ethidium photoaffinity labeling DNA adduct; photoaffinity labeling ethidium DNA adduct identification; Trypanosoma ethidium DNA adduct identification **antibody**

IT Trypanosoma brucei
(ethidium adducts identification in, **antibodies** for)

IT Trypanosomicides
(ethidium-specific **antibodies** for ethidium adducts identification in Trypanosoma brucei in relation to)

IT **Antibodies**
RL: BIOL (Biological study)
(to ethidium deriv., for ethidium adducts identification in Trypanosoma brucei)

IT Deoxyribonucleic acids
RL: PROC (Process)
(adducts, with ethidium, identification of, in Trypanosoma brucei, **antibodies** for)

IT **65282-35-1DP**, 3-Amino-8-azido-5-ethyl-6-phenylphenanthridinium chloride, reaction products with DNA
RL: SPN (Synthetic preparation); PREP (Preparation)
(antigen, prepn. of, for **antibody** prodn.)

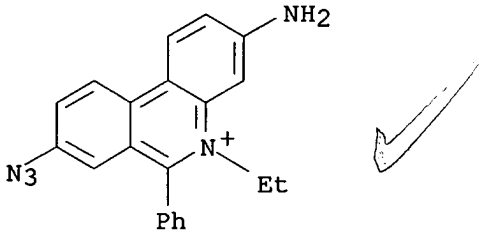
IT 1239-45-8D, Ethidium bromide, DNA adducts
RL: PROC (Process)
(identification of, in Trypanosoma brucei, **antibodies** for)

IT **65282-35-1DP**, 3-Amino-8-azido-5-ethyl-6-phenylphenanthridinium chloride, reaction products with DNA
RL: SPN (Synthetic preparation); PREP (Preparation)
(antigen, prepn. of, for **antibody** prodn.)

RN 65282-35-1 HCAPLUS

CN Phenanthridinium, 3-amino-8-azido-5-ethyl-6-phenyl-, chloride (9CI) (CA

INDEX NAME)



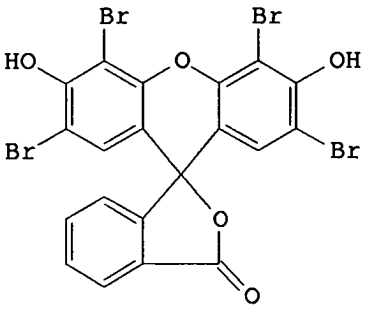
● Cl^-

L14 ANSWER 16 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:576768 HCAPLUS
DOCUMENT NUMBER: 119:176768
TITLE: Method of inactivation of viral and bacterial blood contaminants
INVENTOR(S): Goodrich, Raymond P., Jr.; Yerram, Nagendar; Hackett, Roger W.; Waalkes, Marjan van Borssum
PATENT ASSIGNEE(S): Cryopharm Corp., USA
SOURCE: PCT Int. Appl., 68 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 12
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9314791	A2	19930805	WO 1993-US401	19930127
WO 9314791	A3	20000217		
W: AU, CA, FI, JP, NO				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9334765	A1	19930901	AU 1993-34765	19930127
ZA 9300587	A	19940707	ZA 1993-587	19930127
EP 633786	A1	19950118	EP 1993-903538	19930127
EP 633786	B1	20010801		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 2001509773	T2	20010724	JP 1993-513281	19930127
AT 203679	E	20010815	AT 1993-903538	19930127
NO 9402781	A	19940915	NO 1994-2781	19940726

PRIORITY APPLN. INFO.: US 1992-825691 A 19920127
WO 1993-US401 A 19930127

GI



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I

AB Contamination of blood, a blood component or fraction, a blood cell culture, etc. with a virus, bacteria, or parasites is reduced by mixing with a radiosensitizer and irradiating. Thus, Mo x-irradn. of lyophilized plasma with 420 krad in the presence of xanthene deriv. I caused a 107-fold decrease in titer of added phage .phi.6.

IC ICM A61K049-00

CC 8-3 (Radiation Biochemistry)
Section cross-reference(s): 63

IT Nucleic acids
Receptors
RL: BIOL (Biological study)
(radiosensitizer ligands for, bacteria and parasite and virus inactivation in blood and blood fractions and blood cell cultures with radiation and)

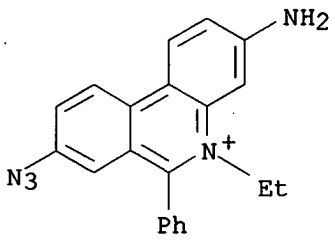
IT **Antibodies**
RL: BIOL (Biological study)
(to nucleic acids, bacteria and parasite and virus inactivation in blood and blood fractions and blood cell cultures with radiation and)

IT 66-97-7, Psoralen 14459-29-1, Hematoporphyrin 20830-81-3, Daunomycin 23214-92-8, Doxorubicin **65282-35-1** 74165-97-2 102791-10-6 139602-11-2 150375-73-8 150375-74-9 150391-39-2
RL: BIOL (Biological study)
(bacteria and parasite and virus inactivation in blood and blood fractions and blood cell cultures with radiation and, as radiosensitizer)

IT **65282-35-1**
RL: BIOL (Biological study)
(bacteria and parasite and virus inactivation in blood and blood fractions and blood cell cultures with radiation and, as radiosensitizer)

RN 65282-35-1 HCAPLUS

CN Phenanthridinium, 3-amino-8-azido-5-ethyl-6-phenyl-, chloride (9CI) (CA INDEX NAME)



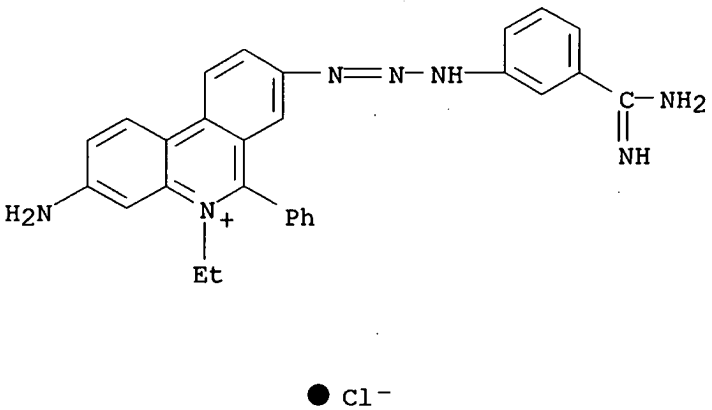
● Cl^-

L14 ANSWER 17 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1988:431610 HCAPLUS
DOCUMENT NUMBER: 109:31610
TITLE: Factors influencing the duration of isometamidium chloride (Samorin) prophylaxis against experimental challenge with metacyclic forms of Trypanosoma congolense
AUTHOR(S): Peregrine, A. S.; Ogunyemi, O.; Whitelaw, D. D.; Holmes, P. H.; Moloo, S. K.; Hirumi, H.; Urquhart, G. M.; Murray, M.
CORPORATE SOURCE: Int. Lab. Res. Anim. Dis., Nairobi, Kenya
SOURCE: Veterinary Parasitology (1988), 28(1-2), 53-64
CODEN: VPARDI; ISSN: 0304-4017
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The duration of a single isometamidium chlorine prophylactic treatment against T. congolense IL Nat. 3.1 and T. congolense IL 285 was examd. in steers with regard to the dose of drug, the level of metacyclic challenge, and the influence of infection with an unrelated serodeme at the time of treatment. The cattle were repeatedly challenged at monthly intervals 2-7 mo following treatment, either by infected Glossina morsitans centralis or by intradermal inoculation of in vitro-derived metacyclic trypanosomes. A dose of 1 mg/kg afforded complete protection for 4 mo and 0.5 mg/kg for 3 mo against the 2 T. congolense serodemes examd., irresp. of the method or extent of challenge. In another group of cattle, which had an established infection at the time of treatment, the duration of chemoprophylaxis against an unrelated serodeme was the same as that of the other groups which had no previous experience of trypanosome infection. **Antibodies** to metacyclics did not appear in any of the cattle as long as the chemoprophylaxis was effective. An exception to this was the group challenged with 5 .times. 105 in vitro-derived metacyclic parasites, in which low **antibody** titers were detected. In all cases these proved to be nonprotective. There was a direct relationship between drug dosage and the duration of chemoprophylaxis; the extent of metacyclic challenge did not affect the duration of chemoprophylaxis, and, when used to treat an existing infection, isometamidium chloride exerted the same degree of chemoprophylactic activity.

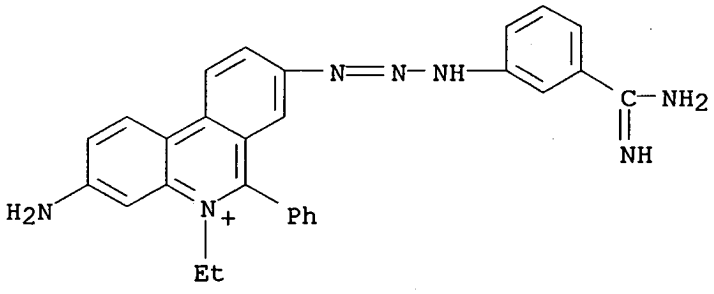
CC 1-5 (Pharmacology)
IT **34301-55-8,** Isometamidium chloride
RL: BIOL (Biological study)
(Trypanosoma congolense infestation inhibition by)
IT **34301-55-8,** Isometamidium chloride

RL: BIOL (Biological study)
(Trypanosoma congolense infestation inhibition by)
RN 34301-55-8 HCAPLUS
CN Phenanthridinium, 3-amino-8-[3-[3-(aminoiminomethyl)phenyl]-1-triazenyl]-5-ethyl-6-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L14 ANSWER 18 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1988:197890 HCAPLUS
DOCUMENT NUMBER: 108:197890
TITLE: Relapses in dogs experimentally infected with Trypanosoma brucei and treated with diminazene aceturate or isometamidium chloride
AUTHOR(S): Kaggwa, E.; Munyua, W. K.; Mugera, G. M.
CORPORATE SOURCE: Dep. Parasitol. Entomol., Ahmadu Bello Univ., Zaria, Nigeria
SOURCE: Veterinary Parasitology (1988), 27(3-4), 199-208
CODEN: VPARDI; ISSN: 0304-4017
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In dogs which had been infested 8 days previously with T. brucei, treatment with a highly curative dose (7 mg/kg) of diminazene aceturate or a subcurative dose (1 mg/kg) of isometamidium chloride led to apparent recovery. The **antibody** titers in both groups remained high, however, and by 42-49 days postinfection there had been .gtoreq.1 relapses in each group. Parasite populations from the relapsed animals were more resistant to the drugs than were the original populations.
CC 1-5 (Pharmacology)
IT 908-54-3, Diminazene aceturate **34301-55-8**, Isometamidium chloride
RL: BIOL (Biological study)
(Trypanosoma brucei infestation treatment with, resistance development in)
IT **34301-55-8**, Isometamidium chloride
RL: BIOL (Biological study)
(Trypanosoma brucei infestation treatment with, resistance development in)
RN 34301-55-8 HCAPLUS
CN Phenanthridinium, 3-amino-8-[3-[3-(aminoiminomethyl)phenyl]-1-triazenyl]-5-ethyl-6-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L14 ANSWER 19 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1986:587151 HCAPLUS
DOCUMENT NUMBER: 105:187151
TITLE: Photochemical method of labelling nucleic acids for detection in hybridization assays
INVENTOR(S): Dattagupta, Nanibhushan
PATENT ASSIGNEE(S): Molecular Diagnostics, Inc., USA
SOURCE: Eur. Pat. Appl., 39 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

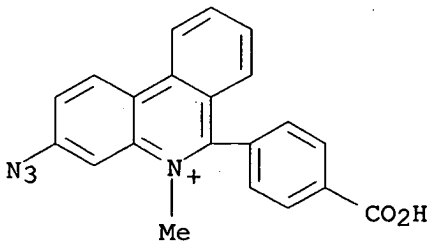
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 187332	A2	19860716	EP 1985-116199	19851218
EP 187332	A3	19870225		
EP 187332	B1	19890201		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
AT 40572	E	19890215	AT 1985-116199	19851218
FI 8600077	A	19860711	FI 1986-77	19860108
AU 8652146	A1	19860717	AU 1986-52146	19860108
AU 588563	B2	19890921		
JP 61164160	A2	19860724	JP 1986-819	19860108
ES 550736	A1	19871201	ES 1986-550736	19860108
DK 8600095	A	19860711	DK 1986-95	19860109
ZA 8600164	A	19860924	ZA 1986-164	19860109
PRIORITY APPLN. INFO.:			US 1985-690336	19850110
			EP 1985-116199	19851218

AB A labeled nucleic acid hybridization probe comprises (1) a nucleic acid component, (2) a nucleic acid-binding **ligand** photochem. linked to the nucleic acid component, (3) a label, and (4) a spacer chem. linking the **ligand** to the label. The spacer can be a chain of .gtoreq.50 atoms, preferably 2-20 atoms, which comprises a polyfunctional peptide, hydrocarbon, polyalc., polyether, polyamine, polyimine, or carbohydrate moiety. For example, a biotinated Gly-Gly-Gly (I) spacer covalently linked to a nucleic acid intercalator, 4'-aminomethyl-4,5'-

dimethylangelicin (AMA), was synthesized by (1) coupling Gly-Gly-Gly to a polystyrene support following a known procedure; (2) attaching biotin to product from (1) by a condensation reaction using DCCD in DMF; (3) washing away unreacted biotin with DMF amide or EtOH; (4) removing the polystyrene support with 2 N NaOH in EtOH, obtaining I; (5) activating I with N-hydroxysuccinimide in the presence of DCCD; and (6) reacting activated I with AMA to produce I-AMA. Coupling of I-AMA to a DNA probe was performed by irradiating a mixed soln. of DNA and I-AMA at 346 nm. The product can be used directly in a hybridization assay.

IC ICM C12Q001-68
ICA G01N033-532
CC 9-2 (Biochemical Methods)
IT **Ligands**
RL: ANST (Analytical study)
(for nucleic acids, reaction products with label compds. and spacer compds., as labels for nucleic acid hybridization probes)
IT Carbohydrates and Sugars, compounds
Hydrocarbons, compounds
Peptides, compounds
Polyethers
RL: ANST (Analytical study)
(reaction products with label compds. and nucleic acid **ligands**, as labels for nucleic acid hybridization probes)
IT Amines, compounds
Imines
RL: ANST (Analytical study)
(poly-, reaction products with label compds. and nucleic acid **ligands**, as labels for nucleic acid hybridization probes)
IT Alcohols, compounds
RL: ANST (Analytical study)
(polyhydric, reaction products with label compds. and nucleic acid **ligands**, as labels for nucleic acid hybridization probes)
IT **105037-70-5D**, acylimidazole esters
RL: RCT (Reactant); RACT (Reactant or reagent)
(amidation of, by spermine)
IT 60-32-2D, reaction products with label compds. and nucleic acid **ligands** 66-97-7D, derivs., reaction products with label compds. and spacer compds. 71-44-3D, reaction products with label compds. and nucleic acid **ligands** 91-22-5D, derivs., reaction products with label compds. and spacer compds. 92-82-0D, derivs., reaction products with label compds. and spacer compds. 92-84-2D, derivs., reaction products with label compds. and spacer compds. 107-15-3D, reaction products with label compds. and nucleic acid **ligands** 124-09-4D, reaction products with label compds. and nucleic acid **ligands** 124-20-9D, reaction products with label compds. and nucleic acid **ligands** 229-87-8D, derivs., reaction products with label compds. and spacer compds. 260-94-6D, derivs., reaction products with label compds. and spacer compds. 556-33-2D, reaction products with label compds. and nucleic acid **ligands** 76174-21-5D, reaction products with label compds. and spacer compds. 80500-62-5D, reaction products with label compds. and spacer compds.
RL: ANST (Analytical study)
(as labels for nucleic acid hybridization probes)
IT **105037-69-2P** 105037-71-6P 105037-72-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as label for DNA hybridization probes)
IT **105037-70-5D**, acylimidazole esters

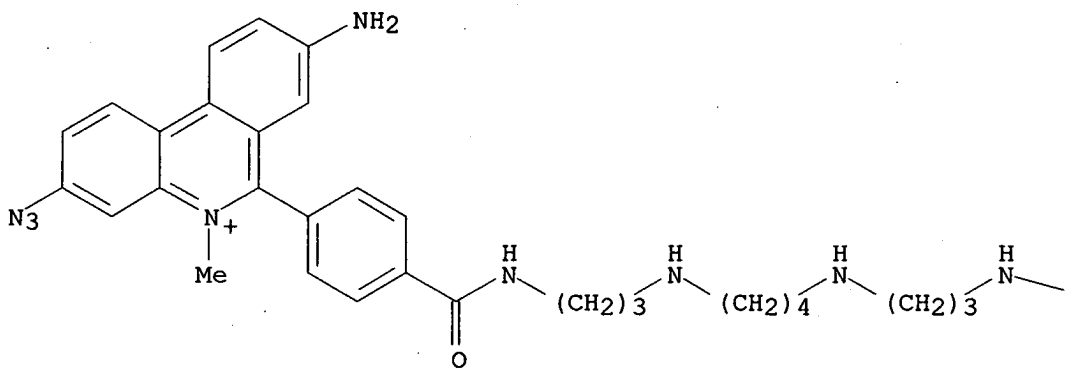
RL: RCT (Reactant); RACT (Reactant or reagent)
(amidation of, by spermine)
RN 105037-70-5 HCAPLUS
CN Phenanthridinium, 3-azido-6-(4-carboxyphenyl)-5-methyl-, chloride (9CI) (CA INDEX NAME)

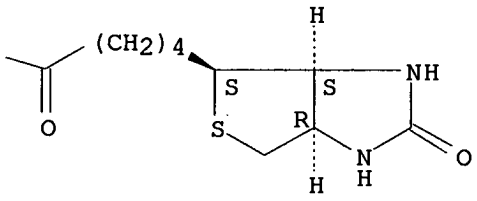


IT **105037-69-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as label for DNA hybridization probes)
RN 105037-69-2 HCAPLUS
CN Phenanthridinium, 8-amino-3-azido-6-[4-[20-(hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl)-1,16-dioxo-2,6,11,15-tetraazaeicos-1-yl]phenyl]-5-methyl-, chloride, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A





L14 ANSWER 20 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1986:490842 HCAPLUS
DOCUMENT NUMBER: 105:90842
TITLE: Isometamidium chloride prophylaxis against Trypanosoma congolense challenge and the development of immune responses in Boran cattle
AUTHOR(S): Whitelaw, D. D.; Bell, I. R.; Holmes, P. H.; Moloo, S. K.; Hirumi, H.; Urquhart, G. M.; Murray, M.
CORPORATE SOURCE: Intl. Lab. Res. Anim. Dis., Nairobi, Kenya
SOURCE: Veterinary Record (1986), 118(26), 722-6
CODEN: VETRAX; ISSN: 0042-4900
DOCUMENT TYPE: Journal
LANGUAGE: English

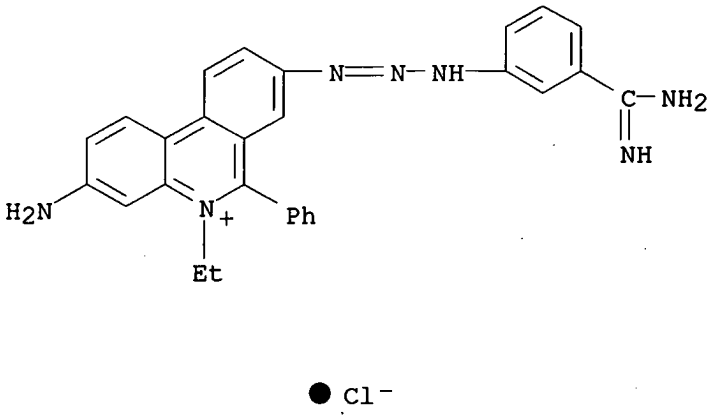
AB Boran cattle were injected with isometamidium chloride [**34301-55-8**] (1 mg/kg) to investigate the duration of drug-induced prophylaxis against infestation by metacyclic forms of T. congolense and to det. if specific **antibody** responses to the organism were generated in the animals. There was complete protection for 5 mo against either single challenge by 5 tsetse flies infested with T. congolense, or repeated challenge at monthly intervals by 5 tsetse flies. Six months after treatment, two-thirds of the cattle were resistant to challenge, irresp. of whether subjected to single or multiple challenge with trypanosome-infested tsetse flies or titrated doses of in vitro-cultured metacyclic forms of T. congolense inoculated intradermally. No animal which resisted infestation developed detectable skin reactions at the site of deposition of metacyclic trypanosomes or produced trypanosome-specific **antibodies**. Thus, drug residues effectively limited trypanosome multiplication at the site of deposition in the skin, thus preventing subsequent parasitemia or priming of the host's immune response.

CC 1-5 (Pharmacology)

IT **34301-55-8**
RL: BIOL (Biological study)
(Trypanosoma congolense infestation of cattle inhibition by, immunity in relation to)

IT **34301-55-8**
RL: BIOL (Biological study)
(Trypanosoma congolense infestation of cattle inhibition by, immunity in relation to)

RN 34301-55-8 HCAPLUS
CN Phenanthridinium, 3-amino-8-[3-[3-(aminoiminomethyl)phenyl]-1-triazenyl]-5-ethyl-6-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L14 ANSWER 21 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1985:538092 HCAPLUS
DOCUMENT NUMBER: 103:138092
TITLE: Nucleic acid probe, test method and reagent system for detecting a polynucleotide sequence and **antibody** for this method
INVENTOR(S): Dattagupta, Nanibhushan; Rae, Peter M. M.; Knowles, William J.; Crothers, Donald M.
PATENT ASSIGNEE(S): Molecular Diagnostics, Inc., USA
SOURCE: Eur. Pat. Appl., 41 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 147665	A1	19850710	EP 1984-114536	19841130
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
US 4724202	A	19880209	US 1983-560462	19831212
US 4777129	A	19881011	US 1984-662858	19841019
NO 8404745	A	19850613	NO 1984-4745	19841128
ES 538291	A1	19860716	ES 1984-538291	19841205
FI 8404865	A	19850613	FI 1984-4865	19841210
IL 73774	A1	19881130	IL 1984-73774	19841210
DK 8405913	A	19850613	DK 1984-5913	19841211
AU 8436523	A1	19850620	AU 1984-36523	19841211
ZA 8409622	A	19850828	ZA 1984-9622	19841211
JP 60144662	A2	19850731	JP 1984-260990	19841212
CA 1266434	A1	19900306	CA 1984-469904	19841212

PRIORITY APPLN. INFO.: US 1983-560462 19831212
US 1984-662858 19841019

AB A method and probe are described for the detection of specific polynucleotide sequences in biol. samples with high sensitivity by

solid-phase hybridization assay. The probe consists of a hybridizable single-stranded portion of nucleic acid connected to a nonhybridizable single- or double-stranded nucleic acid portion which contains a specific binding site for the protein(s) (e.g., repressor proteins, **antibodies**, lac repressor proteins). The nonhybridizable portion of the probe may be chem. or phys. modified by an intercalating agent, Pt-contg. **ligand**, or salt to create a protein recognition site. The method involves combining the sample with the probe (either the sample or probe are immobilized on a support), sepg. the solid support carrying hybridized probe from unhybridized probe, adding to the sepd. solid support carrying the hybridized probe a protein labeled with an enzyme, fluorescer, luminescer, chromophore, radiolabel, etc., which binds the recognition site on the probe, and detg. the label protein that becomes bound to the support. For example, for the detection the .beta.-globin gene, a plasmid carrying a single-stranded region of the human .beta.-globin gene was coupled covalently to the lac operator DNA, immobilized on a solid support, and hybridized, followed by addn. of FITC-labeled lac repressor protein, and detn. of bound repressor.

IC ICM G01N033-50
ICS G01N033-531; C12Q001-68

CC 9-10 (Biochemical Methods)

IT **Antibodies**
Proteins
RL: ANST (Analytical study)
(nucleic acid probe binding to, for polynucleotide sequence detection by hybridization assay)

IT **Ligands**
RL: ANST (Analytical study)
(platinum-contg., nucleic acid probe contg., for polynucleotide sequence detection by hybridization assay)

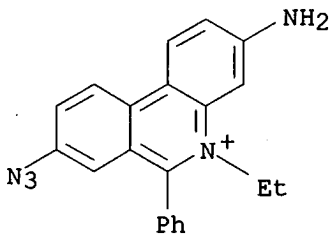
IT 7440-06-4, uses and miscellaneous
RL: USES (Uses)
(**ligands** contg., nucleic acid probe contg., for polynucleotide sequence detection by hybridization assay)

IT **69498-50-6**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with DNA)

IT **69498-50-6**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with DNA)

RN 69498-50-6 HCAPLUS

CN Phenanthridinium, 3-amino-8-azido-5-ethyl-6-phenyl- (9CI) (CA INDEX NAME)



L14 ANSWER 22 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1985:538075 HCAPLUS

DOCUMENT NUMBER: 103:138075
TITLE: Nucleic acid hybridization assay
INVENTOR(S): Yabusaki, Kenichi Ken; Isaacs, Stephen T.; Gamper, Howard B., Jr.
PATENT ASSIGNEE(S): HRI Research, Inc., USA
SOURCE: PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8502628	A1	19850620	WO 1984-US2024	19841207
W: JP				
RW: AT, BE, CH, DE, FR, GB, LU, NL, SE				
US 4599303	A	19860708	US 1983-560430	19831212
EP 165313	A1	19851227	EP 1985-900525	19841207
EP 165313	B1	19891115		
R: AT, BE, CH, DE, FR, GB, LI, LU, NL, SE				
JP 61500688	T2	19860410	JP 1985-500457	19841207
JP 06098039	B4	19941207		
AT 48018	E	19891215	AT 1985-900525	19841207
JP 06098039	B4	19941207	JP 1984-500457	19841207
CA 1236410	A1	19880510	CA 1984-469685	19841210

PRIORITY APPLN. INFO.:
US 1983-560430 19831212
EP 1985-900525 19841207
WO 1984-US2024 19841207

AB DNA and RNA probes are described for the identification of cDNA and/or RNA sequences by hybridization between the sample nucleic acid and single-stranded probes of complementary sequence having attached labeled crosslinking mols. (e.g., furocoumarins, benzodipyrones, bis azides), forming covalent bonds (chem. or photochem.) between the labeled crosslinking mols. and sample nucleic acids, removing crosslinking mols. that have not formed covalent bonds with the sample nucleic acids (e.g., by liq. chromatog., enzyme digestion, chem. or photochem. reversal), and measuring the amt. of labeled single-stranded nucleic acid mols. covalently bound to the sample nucleic acids. Alternatively, the single-stranded sample or probe nucleic acids are labeled, or the single-stranded nucleic acid probes are chem. linked to a solid support. The label is a radionuclide, chromogenic or fluorogenic label, chemiluminescent dye, or **ligand**. For example, [3H]psoralen monoadduct probe DNA was hybridized to template DNA of complementary sequence. The hybridized samples were subjected to irradn. at 340-380 nm at 4.degree. for 30 min, resulting in photochem. crosslinking of the hybridized material. The samples were heat-denatured, cooled at 60.degree., incubated with herring sperm DNA contg. S1 nuclease from Aspergillus oryzae, incubated, the reaction was terminated, and the radioactivity was measured in a liq. scintillation counter.

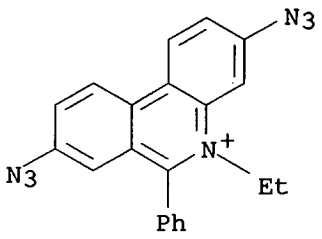
IC ICM C12Q001-68
CC 9-1 (Biochemical Methods)
IT 66-97-7DP, reaction products with nucleic acid probes 298-81-7DP, reaction products with nucleic acid probes 3380-68-5DP, reaction products with nucleic acid probes 3902-71-4DP, reaction products with nucleic acid probes 4413-05-2DP, reaction products with nucleic acid probes 54333-74-3DP, reaction products with nucleic acid probes

57512-42-2DP, reaction products with nucleic acid probes
62442-59-5DP, reaction products with nucleic acid probes 64358-50-5DP, reaction products with nucleic acid probes 98318-90-2DP, reaction products with single-stranded nucleic acid probes 98318-91-3DP, reaction products with single-stranded nucleic acid probes 98318-92-4DP, reaction products with single-stranded nucleic acid probes 98318-93-5DP, reaction products with DNA 98318-94-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, for hybridization assays)

IT **57512-42-2DP**, reaction products with nucleic acid probes
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, for hybridization assays)

RN 57512-42-2 HCAPLUS

CN Phenanthridinium, 3,8-diazido-5-ethyl-6-phenyl-, bromide (9CI) (CA INDEX NAME)



● Br^-

L14 ANSWER 23 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1985:501505 HCAPLUS
DOCUMENT NUMBER: 103:101505
TITLE: Hybridization assay employing labeled probe and anti-hybrid
INVENTOR(S): Albarella, James P.; Anderson, Deriemer Leslie H.; Carrico, Robert J.
PATENT ASSIGNEE(S): Miles Laboratories, Inc. , USA
SOURCE: Eur. Pat. Appl., 58 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 144913	A2	19850619	EP 1984-114442	19841129
EP 144913	A3	19860820		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
US 4743535	A	19880510	US 1984-668255	19841107
NO 8404846	A	19850613	NO 1984-4846	19841204
FI 8404869	A	19850613	FI 1984-4869	19841210
ZA 8409593	A	19850731	ZA 1984-9593	19841210
ZA 8409595	A	19850731	ZA 1984-9595	19841210

ZA 8409596	A	19850731	ZA 1984-9596	19841210
ZA 8409594	A	19850828	ZA 1984-9594	19841210
DK 8405916	A	19850613	DK 1984-5916	19841211
JP 60179657	A2	19850913	JP 1984-260100	19841211
AU 8436563	A1	19850620	AU 1984-36563	19841212
AU 580745	B2	19890202		
ES 538543	A1	19860516	ES 1984-538543	19841212
CA 1250230	A1	19890221	CA 1984-469905	19841212

PRIORITY APPLN. INFO.:

US 1983-560429	19831212
US 1984-645850	19840831
US 1984-668255	19841107

AB A method is described for the detection of specific polynucleotide sequences in biol. samples by a hybridization assay that does not require sepn. of hybridized and unhybridized labeled probe or immobilization of sample or probe nucleic acids. The method involves hybridization with a single-stranded complementary probe labeled with an enzyme substrate, cofactor, enzyme inhibitor, epitopes, or labeling pairs, and binding the formed hybrid to an **antibody** against the DNA-RNA or RNA-RNA hybrid or their intercalation complexes. The label in the **antibody**-bound hybrid gives a different response than the label in the unhybridized labeled probe. A preferred interaction between label pairs involves 2 chem. reactions where 1 label participates in the 1st reaction to produce a diffusible product which with the 2nd label to yield a detectable product. Another preferred interaction between label pairs involves energy transfer. For example; Escherichia coli tRNA was detected by the method by using an FAD-labeled DNA probe, **antibody** to RNA-DNA hybrid, a reagent contg. bovine serum albumin, 3,5-dichloro-2-hydroxybenzene sulfonate, glucose, and peroxidase, and a reagent contg. glucose oxidase, glycerol, 4-aminoantipyrine, and Na azide.

IC ICM C12Q001-68

CC 9-10 (Biochemical Methods)
Section cross-reference(s): 10

ST polynucleotide sequence detection hybridization assay; bacteria rRNA detection hybridization assay; enzyme **antibody** polynucleotide hybridization assay; fluorescence energy transfer hybridization assay

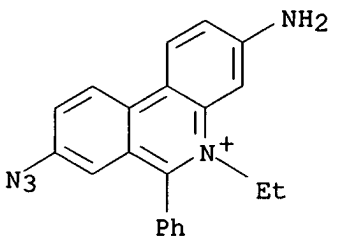
IT **Antibodies**
RL: SPN (Synthetic preparation); PREP (Preparation)
(monoclonal, to ethidium-modified DNA probe, prepn. of, for cytomegalovirus rRNA detection in human by hybridization assay)

IT **69498-50-6DP**, reaction products with fluorescein-labeled DNA probe
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, for cytomegalovirus rRNA detection in urine by hybridization assay)

IT **69498-50-6DP**, reaction products with fluorescein-labeled DNA probe
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, for cytomegalovirus rRNA detection in urine by hybridization assay)

RN 69498-50-6 HCAPLUS

CN Phenanthridinium, 3-amino-8-azido-5-ethyl-6-phenyl- (9CI) (CA INDEX NAME)



L14 ANSWER 24 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1985:484612 HCAPLUS
DOCUMENT NUMBER: 103:84612
TITLE: Nucleic acid hybridization assay employing **antibodies** to intercalation complexes
INVENTOR(S): Albarella, James P.; Anderson, Leslie H.
PATENT ASSIGNEE(S): Miles Laboratories, Inc. , USA
SOURCE: Eur. Pat. Appl., 72 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 146815	A2	19850703	EP 1984-114445	19841129
EP 146815	A3	19860813		
EP 146815	B1	19900816		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
IL 73577	A1	19891031	IL 1984-73577	19841121
AT 55621	E	19900915	AT 1984-114445	19841129
NO 8404847	A	19850613	NO 1984-4847	19841204
NO 164384	B	19900618		
NO 164384	C	19900926		
FI 8404866	A	19850613	FI 1984-4866	19841210
FI 84838	B	19911015		
FI 84838	C	19920127		
ZA 8409593	A	19850731	ZA 1984-9593	19841210
ZA 8409595	A	19850731	ZA 1984-9595	19841210
ZA 8409596	A	19850731	ZA 1984-9596	19841210
ZA 8409594	A	19850828	ZA 1984-9594	19841210
DK 8405917	A	19850613	DK 1984-5917	19841211
DK 160107	B	19910128		
DK 160107	C	19910624		
JP 60151559	A2	19850809	JP 1984-260097	19841211
JP 05031108	B4	19930511		
AU 8436560	A1	19850620	AU 1984-36560	19841212
AU 578436	B2	19881027		
ES 538540	A1	19860601	ES 1984-538540	19841212
CA 1238575	A1	19880628	CA 1984-469908	19841212
US 4563417	A	19860107	US 1984-685903	19841224

PRIORITY APPLN. INFO.:
US 1983-560429 19831212
US 1984-645850 19840831
EP 1984-114445 19841129

AB A method and reagent system are described for the detection of sp.

polynucleotide sequences in biol. samples by a hybridization assay which does not require chem. modification of polynucleotides. The method involves hybridization with a single-stranded probe of complementary sequence and addn. of a nucleic acid intercalator capable of binding noncovalently to the formed hybrid. The hybrid is then detected by addn. of an **antibody** or its fragment labeled with an enzyme, fluorescer, luminescer, radioisotope, or chromophore, and capable of binding intercalation complexes, and detn. of bound **antibody**. Alternatively, the intercalator is covalently linked to the single-stranded region of the probe, or the probe or the nucleic acids in the sample are immobilized on a solid support and the **antibody** assocd. with the solid support is detd., or the sample is contacted with 2 probes, 1 of which is immobilized on a solid support and the other is labeled (solid-phase sandwich hybridization) or 1 of the probes is labeled and the other has a binding site for a binding substance and an immobilized form of the binding substance is added after the hybridization step (soln. phase hybridization). For example, bacterial DNA was detected in urine by solid-phase hybridization assay by using bacterial DNA immobilized on nitrocellulose, a phage vector probe whose double-stranded region was covalently linked to ethidiene by photolysis, and .beta.-galactosidase-labeled **antibodies** to the DNA-intercalator complex.

IC ICM C12Q001-68

CC 9-10 (Biochemical Methods)
Section cross-reference(s): 10

ST polynucleotide sequence detection hybridization assay; intercalation complex **antibody** hybridization assay; urine bacteria DNA hybridization assay; virus detection urine hybridization assay; body fluid virus DNA hybridization

IT Virus, animal
(DNA of, detection of, in urine by solid-phase hybridization assay with biotin-labeled **antibodies** and enzyme-labeled avidin)

IT Chromophores and Chromophoric systems
Fluorescent substances
Luminescent substances
Enzymes
Ligands
Radioelements, uses and miscellaneous
RL: ANST (Analytical study)
(**antibodies** to DNA-intercalator complexes labeled with, in hybridization assays)

IT Urine analysis
(bacterial and viral DNA detection in, by hybridization assays, **antibodies** to intercalation complexes in)

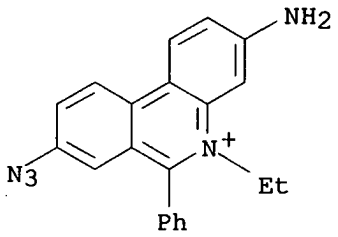
IT Deoxyribonucleic acid sequences
(detection of, by hybridization assay, **antibodies** to intercalation complexes in)

IT Nucleic acids
RL: ANST (Analytical study)
(hybridization of, **antibodies** to intercalation complexes in)

IT **Antibodies**
RL: SPN (Synthetic preparation); PREP (Preparation)
(to DNA-intercalator complexes, prepn. of, for hybridization assays)

IT Virus, animal
(adeno-, DNA of, detection of, in urine by sequence hybridization assay with enzyme-labeled **antibody** and immobilized intercalator-modified probe)

IT Bacteria
(gram-neg., DNA of, detection of, in urine by solid-phase hybridization assay with intercalator-modified probe and enzyme-labeled **antibody**)
IT **Antibodies**
RL: SPN (Synthetic preparation); PREP (Preparation)
(monoclonal, to DNA-intercalator complexes, prepn. of, for hybridization assays)
IT 64987-85-5
RL: ANST (Analytical study)
(as coupling agent, in **antibody**-galactosidase conjugate prepn. for hybridization assays)
IT **69498-50-6**
RL: ANST (Analytical study)
(in DNA-ethidium intercalation complex prepn. by photolysis)
IT 58-85-5DP, reaction products with **antibodies** to DNA-intercalator complexes 9001-78-9DP, reaction products with avidins and biotin 9013-20-1DP, reaction products with alk. phosphatase and biotin 9031-11-2DP, reaction products with **antibodies** to DNA-ethidium intercalation complexes 14158-31-7DP, reaction products with **antibodies** to DNA-intercalator complexes
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, for hybridization assays)
IT **69498-50-6**
RL: ANST (Analytical study)
(in DNA-ethidium intercalation complex prepn. by photolysis)
RN 69498-50-6 HCAPLUS
CN Phenanthridinium, 3-amino-8-azido-5-ethyl-6-phenyl- (9CI) (CA INDEX NAME)



L14 ANSWER 25 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1985:484609 HCAPLUS
DOCUMENT NUMBER: 103:84609
TITLE: Hybridization assay with immobilization of hybrids by antihybrid binding
INVENTOR(S): Albarella, James P.; Anderson Deriemer, Leslie H.; Carrico, Robert J.
PATENT ASSIGNEE(S): Miles Laboratories, Inc. , USA
SOURCE: Eur. Pat. Appl., 54 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

EP 146039	A2	19850626	EP 1984-114443	19841129
EP 146039	A3	19860827		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
IL 73578	A1	19890928	IL 1984-73578	19841121
NO 8404848	A	19850613	NO 1984-4848	19841204
FI 8404868	A	19850613	FI 1984-4868	19841210
ZA 8409593	A	19850731	ZA 1984-9593	19841210
ZA 8409595	A	19850731	ZA 1984-9595	19841210
ZA 8409596	A	19850731	ZA 1984-9596	19841210
ZA 8409594	A	19850828	ZA 1984-9594	19841210
DK 8405919	A	19850613	DK 1984-5919	19841211
JP 60201257	A2	19851011	JP 1984-260099	19841211
AU 8436562	A1	19850620	AU 1984-36562	19841212
AU 579335	B2	19881124		
ES 538542	A1	19860516	ES 1984-538542	19841212
CA 1250232	A1	19890221	CA 1984-469907	19841212
PRIORITY APPLN. INFO.:			US 1983-560429	19831212
			US 1984-645850	19840831
			US 1984-668256	19841107

AB A method is described for the detection of specific polynucleotide sequences in biol. samples by a hybridization assay that does not require immobilization of sample or probe nucleic acids and allows hybridization to proceed in soln. where the hybridization rate is rapid and more efficient. The method involves hybridization with a single-stranded probe of complementary sequence, and binding the formed hybrids to immobilized **antibodies** against the DNA-RNA or RNA-RNA hybrids or their intercalation complexes. The immobilized **antibody**-bound hybrids are then contacted with a 2nd **antibody** labeled with an enzyme, fluorescer, radioisotope, luminescer, or chromophore, and the label assocd. with the immobilized reagent is measured. Alternatively, the probe is labeled, or the 1st **antibody** is sol. and bound to a **ligand** (biotin or hapten) and the hybrids are also contacted with immobilized avidin or antihapten **antibody**. For example, cytomegalovirus DNA was detected in urine by hybridization of viral DNA with RNA probe in soln., and detn. of the amt. of formed RNA-DNA hybrid by using monoclonal **antibody** (to RNA-DNA) immobilized on magnetizable microparticles and fluorescein-labeled 2nd **antibody** to RNA-DNA.

IC ICM C12Q001-68

CC 9-10 (Biochemical Methods)
Section cross-reference(s): 10

ST polynucleotide sequence detection hybridization assay; urine cytomegalovirus DNA detection hybridization; **antibody** hybridization assay polynucleotide sequence

IT Chromophores and Chromophoric systems
Fluorescent substances
Luminescent substances
Enzymes
RL: ANST (Analytical study)
(**antibodies** labeled with, in hybridization assays)

IT Urine analysis
(cytomegalovirus DNA detection in, by hybridization assay with immobilization of hybrids by **antibody** binding)

IT Deoxyribonucleic acids
Nucleic acids
Ribonucleic acids

RL: ANST (Analytical study)
(hybridization of, immobilization of hybrids by **antibody** binding in)

IT Haptens
RL: SPN (Synthetic preparation); PREP (Preparation)
(reaction products with **antibodies** to DNA-RNA or RNA hybrids, prepn. of, for hybridization assays)

IT Virus, animal
(cytomegalo-, DNA of, detection of, in urine by hybridization assay with immobilization of hybrids by **antibody** binding)

IT **Antibodies**
(immobilized, in DNA-RNA or RNA-RNA hybrid detection in hybridization assays)

IT **Antibodies**
RL: ANST (Analytical study)
(monoclonal, immobilized, in DNA-RNA or RNA-RNA hybrid detection in hybridization assays)

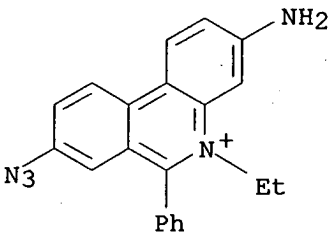
IT 2321-07-5
RL: ANST (Analytical study)
(**antibody** to DNA-RNA or RNA-RNA hybrids labeled with, in hybridization assays)

IT 58-85-5DP, reaction products with **antibodies** to DNA-RNA or RNA-RNA hybrids
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, for hybridization assays)

IT **69498-50-6DP**, reaction products with DNA
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, in hybridization assay for cytomegalovirus DNA detection in urine)

IT **69498-50-6DP**, reaction products with DNA
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, in hybridization assay for cytomegalovirus DNA detection in urine)

RN 69498-50-6 HCAPLUS
CN Phenanthridinium, 3-amino-8-azido-5-ethyl-6-phenyl- (9CI) (CA INDEX NAME)



L14 ANSWER 26 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1985:484608 HCAPLUS
DOCUMENT NUMBER: 103:84608
TITLE: Hybridization assay employing labeled pairs of hybrid binding reagents
INVENTOR(S): Albarella, James P.; DeRiemer, Leslie H. Anderson; Carrico, Robert J.
PATENT ASSIGNEE(S): Miles Laboratories, Inc. , USA
SOURCE: Eur. Pat. Appl., 48 pp.

CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 144914	A2	19850619	EP 1984-114444	19841129
EP 144914	A3	19860813		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
NO 8404849	A	19850613	NO 1984-4849	19841204
FI 8404867	A	19850613	FI 1984-4867	19841210
ZA 8409593	A	19850731	ZA 1984-9593	19841210
ZA 8409595	A	19850731	ZA 1984-9595	19841210
ZA 8409596	A	19850731	ZA 1984-9596	19841210
ZA 8409594	A	19850828	ZA 1984-9594	19841210
DK 8405914	A	19850613	DK 1984-5914	19841211
JP 60201256	A2	19851011	JP 1984-260098	19841211
AU 8436561	A1	19850620	AU 1984-36561	19841212
AU 578641	B2	19881103		
ES 538541	A1	19860516	ES 1984-538541	19841212
CA 1239580	A1	19880726	CA 1984-469906	19841212

PRIORITY APPLN. INFO.: US 1983-560429 19831212
US 1984-645850 19840831
US 1984-668257 19841107

AB A nucleic acid hybridization assay and reagent system are described for the detection of specific polynucleotide sequences in biol. samples; esp. body fluids, in which the hybrid formed with the probe has binding sites for 2 proximal labeled binding reagents (at least 1 of which is an **antibody**) which give a response that is different from the response given when the 2 labeled reagents are not bound to the same hybrid, thus requiring no sepn. of hybridized and unhybridized labeled probe and facilitating the performance and automation of the assay. Preferably, the labels are enzymes or are involved in energy transfer interactions such as between a fluorescer or luminescer and a quencher. For example, the method was used for the detection of bacterial RNA in urine by addn. of glucose oxidase, labeled **antibody** (to RNA-DNA hybrid) and peroxidase-labeled **antibody** to each tube contg. sample and DNA probe; addn. of substrate soln. contg. glucose, 3; 5-dichloro-2-hydroxybenzene sulfonate; catalase; 4-aminoantipyrine; and bovine serum albumin in Na phosphate; pH 6.5, incubation for 30 min at 37.degree., and measuring the absorbance at 510 nm.

IC ICM C12Q001-68
CC 9-10 (Biochemical Methods)
Section cross-reference(s): 10
ST body fluid polynucleotide sequence detection; nucleic acid hybridization labeled **antibody**; urine bacteria RNA hybridization assay; enzyme **antibody** nucleic acid hybridization; cytomegalovirus urine hybridization assay fluorescence
IT Fluorescent substances
Enzymes
RL: ANST (Analytical study)
(**antibodies** to nucleic acid hybrids labeled with, for polynucleotide sequence detection by hybridization assay)
IT **Antibodies**
RL: ANST (Analytical study)

(to nucleic acid hybrids, enzyme- or fluorescence-labeled, for polynucleotide sequence detection by hybridization assay)

IT Virus, animal
(cytomegalo-, detection of, in urine by hybridization with fluorescence-labeled **antibodies**)

IT **Antibodies**
RL: ANST (Analytical study)
(monoclonal, to nucleic acid hybrids, enzyme- or fluorescence-labeled, for polynucleotide sequence detection by hybridization assay)

IT **69498-50-6**
RL: ANST (Analytical study)
(DNA probe intercalated with, in bacterial rRNA detection by, hybridization assay with label pairs of hybrid-binding reagents)

IT 51306-35-5
RL: ANST (Analytical study)
(monoclonal **antibody** to DNA-RNA hybrid labeled with, bacterial RNA detection in urine by hybridization assay in relation to)

IT 9001-37-0
RL: USES (Uses)
(monoclonal **antibody** to DNA-RNA hybrid labeled with, in RNA detection in urine by hybridization assay)

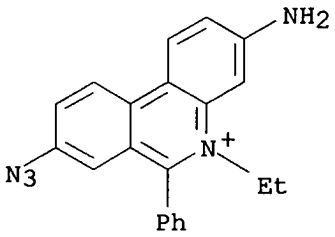
IT 3483-12-3
RL: ANST (Analytical study)
(monoclonal **antibody** to DNA-RNA hybrid redn. by)

IT 9003-99-0
RL: ANST (Analytical study)
(of horseradish monoclonal **antibody** to DNA-RNA hybrid labeled with, in bacterial RNA detection in urine by hybridization assay)

IT 64987-85-5DP, reaction products with glucose oxidase 68181-17-9DP, reaction products with monoclonal **antibody** to DNA-RNA hybrid
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

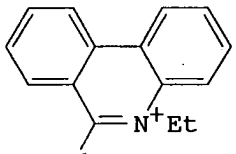
IT **69498-50-6**
RL: ANST (Analytical study)
(DNA probe intercalated with, in bacterial rRNA detection by, hybridization assay with label pairs of hybrid-binding reagents)

RN 69498-50-6 HCAPLUS
CN Phenanthridinium, 3-amino-8-azido-5-ethyl-6-phenyl- (9CI) (CA INDEX NAME)



L14 ANSWER 27 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1984:98469 HCAPLUS
DOCUMENT NUMBER: 100:98469
TITLE: Ethidium binding to deoxyribonucleic acid: spectrophotometric analysis of analogs with amino, azido, and hydrogen substituents

AUTHOR(S): Yielding, Lerena W.; Yielding, K. Lemone; Donoghue, Jennifer E.
CORPORATE SOURCE: Coll. Med., Univ. South Alabama, Mobile, AL, 36688, USA
SOURCE: Biopolymers (1984), 23(1), 83-110
CODEN: BIPMAA; ISSN: 0006-3525
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



I

AB The DNA-**ligand** interactions of a series of phenanthridinium compds. (I) with various combinations of NH2, N3-, and H functions at R3 and R8 were examd. to det. the contribution of these particular substituents to **ligand** binding. Spectrophometric titrns. using calf thymus DNA emphasized the importance of NH2 substituents in conferring a strong interaction and also stabilizing the interaction against reversal by high ionic strength. Although N3- groups were not as effective as NH2 groups, they were more effective than H functions in enhancing the interaction. Furthermore, an NH2 substitution at R8 was consistently, though only slightly, more effective than an NH2 substituent at R3. The results from superhelical titrns., using plasmid pBR322 DNA, demonstrated that analogs with NH2 and(or) N3- functions at both R3 and R8 produced the greatest unwinding, and compds. with an NH2 or an N3- function at R8 proved more effective than those with the corresponding NH2 or N3- substituent at R3.

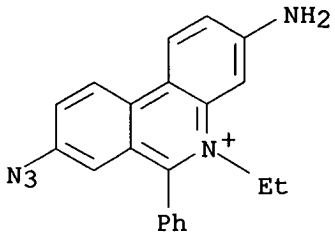
CC 6-2 (General Biochemistry)

IT 1239-45-8 **65282-35-1** **65282-36-2** 74920-67-5
74920-68-6 74920-69-7 **74920-70-0** 74920-71-1
74951-11-4
RL: BIOL (Biological study)
(DNA interaction with, spectra in relation to)

IT **65282-35-1** **65282-36-2** **74920-68-6**
74920-70-0 **74951-11-4**
RL: BIOL (Biological study)
(DNA interaction with, spectra in relation to)

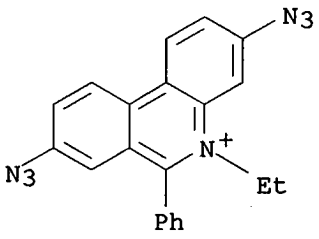
RN 65282-35-1 HCAPLUS

CN Phenanthridinium, 3-amino-8-azido-5-ethyl-6-phenyl-, chloride (9CI) (CA INDEX NAME)



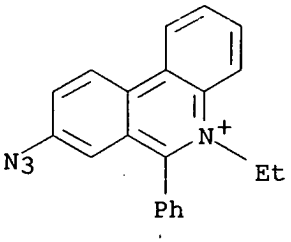
● Cl^-

RN 65282-36-2 HCAPLUS
CN Phenanthridinium, 3,8-diazido-5-ethyl-6-phenyl-, chloride (9CI) (CA INDEX NAME)



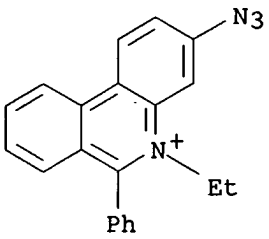
● Cl^-

RN 74920-68-6 HCAPLUS
CN Phenanthridinium, 8-azido-5-ethyl-6-phenyl-, chloride (9CI) (CA INDEX NAME)



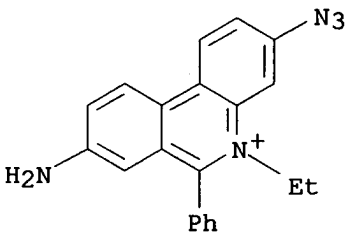
● Cl^-

RN 74920-70-0 HCAPLUS
CN Phenanthridinium, 3-azido-5-ethyl-6-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

RN 74951-11-4 HCAPLUS
CN Phenanthridinium, 8-amino-3-azido-5-ethyl-6-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L14 ANSWER 28 OF 29 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1981:187077 HCAPLUS
DOCUMENT NUMBER: 94:187077
TITLE: Ethidium bromide and its photoreactive analogs: spectroscopic anlysis of deoxyribonucleic acid binding properties
AUTHOR(S): Graves, David E.; Watkins, Charles L.; Yielding, Lerena W.
CORPORATE SOURCE: Lab. Mol. Biol., Univ. Alabama, Birmingham, AL, 35294, USA
SOURCE: Biochemistry (1981), 20(7), 1887-92
CODEN: BICHAW; ISSN: 0006-2960
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Photoaffinity labeling was applied in the development of 2 photosensitive ethidium azide analogs: ethidium monoazide (3-amino-8-azido-5-ethyl-6-phenylphenanthridinium chloride) and diazide (3,8-diazido-5-ethyl-6-phenylphenanthridinium chloride). Both the noncovalent and the covalent interactions of ethidium and these azides with calf thymus DNA were analyzed at several salt concns. by using spectrophotometric and dialysis techniques. The noncovalent interaction of the monoazide with DNA is essentially identical with that of the parent ethidium and is primarily intercalative in nature. The DNA interaction with the diazide, apparently

a stacking interaction, is quite different as seen by the greater decrease in the apparent assocn. const. at elevated salt concns. Furthermore, the covalent interaction of the monoazide with DNA formed with .apprx.40% photolytic efficiency, resembled that of the noncovalent complex which suggests that no reorientation of the noncovalently bound **ligand** is required for covalent attachment. The monoazido analog of ethidium bromide may be useful in detg. directly the targets responsible for biol. activity.

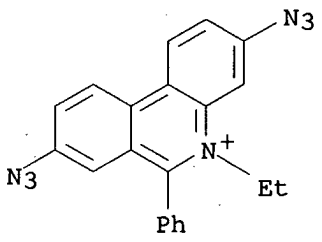
CC 6-2 (General Biochemistry)

IT 63783-82-4 **67620-23-9**
RL: PROC (Process)
(DNA binding of)

IT **67620-23-9**
RL: PROC (Process)
(DNA binding of)

RN 67620-23-9 HCAPLUS

CN Phenanthridinium, 3,8-diazido-5-ethyl-6-phenyl- (9CI) (CA INDEX NAME)



L14 ANSWER 29 OF 29 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1978:559050 HCAPLUS

DOCUMENT NUMBER: 89:159050

TITLE: **Ligand** binding sites and subunit interactions of Torpedo californica acetylcholine receptor

AUTHOR(S): Witzemann, Veit; Raftery, Michael

CORPORATE SOURCE: Div. Chem. Chem. Eng., California Inst. Technol., Pasadena, CA, USA

SOURCE: Biochemistry (1978), 17(17), 3598-604
CODEN: BICHAW; ISSN: 0006-2960

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A bisazido-3H deriv. of ethidium bromide was synthesized to identify sites of interaction of ethidium with the acetylcholine receptor from T. californica and to aid in localization of **ligand** binding sites. For purified solubilized acetylcholine receptor, the photolabel was competitive with ethidium bromide. All 4 polypeptide components were labeled with ethidium azide, and .alpha.-bungarotoxin inhibited the labeling of the 40,000-dalton subunit. Photolabeling of acetylcholine receptor-enriched membrane fragments was more selective than for purified acetylcholine receptor, since the 40,000-dalton subunit was preferentially labeled; this demonstrated differences in the topog. of receptor subunits depending on whether the mol. was in detergent soln. or in a membrane-bound state. The results imply that conformational changes generated at the 40,000-mol.-wt. subunit upon cholinergic **ligand** interaction cause further intermol. structural changes that involve

subunits of higher mol. wt. These higher-mol.-wt. subunits therefore belong to a supramol. complex of polypeptides assocd. with the postsynaptic membrane.

CC 6-3 (General Biochemistry)

ST acetylcholine receptor **ligand** subunit interaction; Torpedo acetylcholine receptor

IT Torpedo californica
(acetylcholine receptor of, **ligand** binding and subunit interactions of)

IT Receptors
RL: BIOL (Biological study)
(cholinergic, for, of Torpedo californica, **ligand** binding and subunit interactions of)

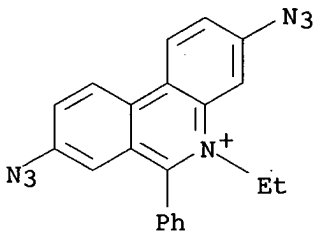
IT 54-11-5 57-95-4 462-58-8 11032-79-4 25535-16-4 40709-29-3 58672-74-5 **65282-36-2**
RL: BIOL (Biological study)
(acetylcholine receptor binding of, subunit interaction in relation to)

IT 51-84-3, biological studies
RL: BIOL (Biological study)
(receptor for, of Torpedo californica, **ligand** binding and subunit interaction of)

IT **65282-36-2**
RL: BIOL (Biological study)
(acetylcholine receptor binding of, subunit interaction in relation to)

RN 65282-36-2 HCAPLUS

CN Phenanthridinium, 3,8-diazido-5-ethyl-6-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl^-